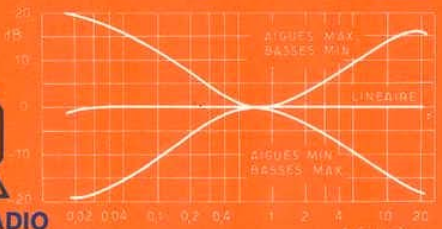
H. SCHREIBER

Commande Volume – Tonalité
Gain ⩽ 80 dB Distorsion
Bruit < 50 µV

MONTAGES ÉLECTRONIQUE-RADIO-TV-Hi-Fi CIRCUITS INTÉGRÉS

SCHÉMAS ET CARACTÉRISTIQUES



2ème Édition

S.E.C.F.
ÉDITIONS RADIO

MICRO ORDINATEURS

Le mensuel de la micro-informatique et de ses utilisations professionnelles

En vente chez tous les marchands de journaux

un magazine édité par

S. E. C. F.

ÉDITIONS RADIO

H. SCHREIBER

MONTAGES
ÉLECTRONIQUE - RADIO - TV - HI-FI
CIRCUITS INTÉGRÉS

SCHÉMAS ET CARACTÉRISTIQUES

2ème Edition

S. E. C. F.

Éditions Radio

3, RUE DE L'ÉPERON 75006 PARIS

TÉL. 329.63.70-C.C.P. La Source 340.37.40 H

du même Auteur, aux Editions Radio

- **Guide mondial des semi-conducteurs**
- **20 Postes radio à réaliser soi-même**
- **Radio-TV-Transistors**
- **Réparation des récepteurs à transistors**
- **Technique et applications des transistors**
- **Amplification et commutation**
- **Comment perfectionner son laboratoire**

© SECF - Editions Radio 1981

Imprimé en France
Imprimerie Berger-Levrault, Nancy

Dépôt légal : avril 1985
n° éditeur : 1011 - n° imprimeur : 778617
I.S.B.N. 2 7091 0863 1

INTRODUCTION

Ce livre est une collection de schémas d'utilisation des circuits intégrés couramment utilisés dans le domaine «grand public». Ces schémas sont classés par ordre alpha-numérique (les lettres ont priorité sur les chiffres) du code d'appellation du circuit. Avec les valeurs des composants, ils indiquent certaines caractéristiques principales, gains en tension et en puissance, intensité d'alimentation, domaines de fréquence.

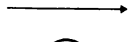
Avec les signes et symbôles habituels et courants, on utilise les abréviations suivantes :

AM	Modulation d'amplitude
BF	Basse fréquence
BLU	Bande latérale unique
CAC	Commande automatique couleurs
CAF	Commande automatique de fréquence
CAG	Commande automatique de gain
FI	Fréquence intermédiaire (moyenne fréquence)
FM	Modulation de fréquence
GP	Gain en puissance
GV	Gain en tension
HF	Haute fréquence (30 kHz à 30 MHz)
LED	Diode luminescente
Lim	Limitation
UHF	Fréquence supérieures à 300 MHz
VHF	Fréquences de 30 à 300 MHz

Indices :

V_{CC}' V_{DD}' V_{SS}' V_S	=	Tension d'alimentation
V_{in}' i_{in}'	=	Grandeur d'entrée
V_{out}' i_{out}' P_{out}	=	Grandeur de sortie
R_L	=	Résistance de charge

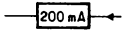
Symboles :



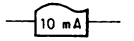
Entrée — — → Sortie

Tension continue, entre deux points de mesure

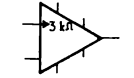
Tension alternative, entre deux points de mesure (volts efficaces, sauf précision contraire)



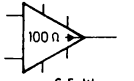
Intensités continues, dans un conducteur



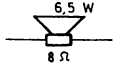
Intensités alternatives, dans un conducteur (en valeurs efficaces)



Résistance d'entrée, en un point donné du circuit (par rapport à la masse)



Résistance de sortie, en un point donné du circuit (par rapport à la masse)



Dans le cas des amplificateurs BF, les valeurs de la résistance de charge et de la puissance nominale sont inscrites dans le symbôle du haut-parleur, ou répertoriées dans un tableau.

Tous les boîtiers sont représentés vus du dessus

TABLE ALPHANUMERIQUE

Type	Page											
CA 723	27	MC 1303	18	SAS 580	40	TAA 611	51	TCA 965	77	TDA 2590	106
CA 741	126	MC 1307	20	SAS 590	40	TAA 661	52	TCA 4500	78	TDA 2611,A	107
CA 748	127	MC 1310	21	SFC 2458	45	TAA 991	53	TDA 440	79	TDA 2640	108
CA 758	128	MC 1330	23	SFC 2709	123	TBA 120,A	54	TDA 1004	80	TDA 4290	109
CA 1310	21	MC 1349	23	SFC 2741	126	TBA 120,S	55	TDA 1005	81	TDA 4400	110
CA 1352	24	MC 1351	22	SFC 2748	127	TBA 120 T/U	56	TDA 1006	80	TDA 4410	110
CA 1458	45	MC 1552	24	SFC 2790	41	TBA 221	126	TDA 1009	82	TDA 4420	110
CA 3075	7	MC 1553	24	SN 16 848	42	TBA 530	57	TDA 1010	82	TDA 4421	110
CA 3089	7	MC 1355	24	SN 16 861	42	TBA 540	58	TDA 1022	83	TDA 9400	111
ESM 432	8	MC 1458	45	SN 16 862	42	TBA 700	59	TDA 1035	84	TDA 9500	111
ESM 532	8	MC 1463	25	SN 16 975	43	TBA 720	60	TDA 1037	85	TDB 0556	112
ESM 632	8	MC 1469	26	SN 28 654	44	TBA 800	61	TDA 1044	86	TEA 1022	113
ESM 732	8	MC 1496	22	SN 29 791	44	TBA 810	62	TDA 1046	87	TEA 5550	114
ESM 1231 C	9	MC 1723	27	SN 72 558	45	TBA 820	63	TDA 1047	88	TEA 5560	115
ESM 1532 C	9	MC 1741	126	SN 72 709	123	TBA 890	60	TDA 1048	88	TL 071	116
L 121 A	10	MC 14 440	28	SN 72 741	126	TBA 900	60	TDA 1054	89	TL 072	116
L 149	11	MM 5736	29	SN 72 748	127	TBA 920	64	TDA 1067	90	TMS 3874	117
LM 373	12	N 5558	45	SN 76 001	46	TBA 990	64	TDA 1069	90	U 106 BS	118
LM 374	13	N 5741	126	SN 76 003	47	TCA 280	65	TDA 1102	91	U 112 BA	119
LM 380	14	N 5748	127	SN 76 008	47	TCA 290	65	TDA 1170	92	U 237 B	120
LM 381	15	NE 502	30	SN 76 013	47	TCA 331	66	TDA 1180	93	U 247 B	120
LM 382	16	NE 540	31	SN 76 018	47	TCA 345	66	TDA 1190	94	U 257 B	120
LM 387	17	NE 541	31	SN 76 023	47	TCA 420	67	TDA 1200	95	U 267 B	120
LM 723	27	NE 542	32	SN 76 033	47	TCA 440	68	TDA 1220	96	UAA 170	121
LM 709	123	NE 546	33	SN 76 110	20	TCA 530	69	TDA 1270	97	UAA 180	121
LM 741	126	S 041	34	SN 76 115	21	TCA 540	69	TDA 1410	98	UAA 4000	122
LM 748	127	S 042	34	SN 76 116	21	TCA 640	58	TDA 1420	98	XR 2206	122
LM 1303	18	SAA 1008	35	SN 76 131	48	TCA 650	70	TDA 2002	99	µA 709	123
LM 1304	19	SAA 1020	35	SN 76 544	48	TCA 660	70	TDA 2004	100	µA 720	124
LM 1305	19	SAA 1021	35	SN 76 545	49	TCA 730	71	TDA 2010	101	µA 723	27
LM 1307	20	SAA 1025	36	SN 76 560	49	TCA 740	71	TDA 2020	101	µA 732	125
LM 1310	21	SAA 1124	37	SN 76 620	55	TCA 750	72	TDA 2030	101	µA 739	125
LM 1351	22	SAA 1130	35	SN 76 660	50	TCA 760	73	TDA 2150	102	µA 741	126
LM 1496	22	SAA 1900	38	SN 76 827	50	TCA 830,A	74	TDA 2160	103	µA 748	127
LM 1800	21	SAS 560	39	SN 76 829	50	TCA 830,S	75	TDA 2542	104	µA 753, 758	128
LS 148	11	SAS 570	39	TAA 521	123	TCA 940	76	TDA 2576	105	µA 1558	45

TABLE DES APPLICATIONS

Affichage canaux télévision . . 35 39, 40, 42
Alimentation ajustable varicap 69
Alimentation à découpage . . . 108 112
Amplificateur BF de puissance . 8 9, 10, 11, 14, 41, 43, 46, 47, 50, 51, 61, 62, 63, 73, 74, 75, 76, 85, 91, 98, 99, 100, 101, 107, 113
Amplificateur BF de puissance avec préamplificateur 80, 82
Amplificateur de chrominance Secam-PAL 58
Amplificateur-correcteur pour microphone dynamique . . . 45
Amplificateur-démodulateur FI-AM/FM 12, 53
Amplificateur-démodulateur FI-FM 7, 22, 24, 34, 50 52, 54, 55, 56, 67, 88, 95
Amplificateur-démodulateur FI-FM avec étage de puissance BF 84, 94
Amplificateur-démodulateur FI-TV 79, 104, 110
Amplificateur-démodulateur son TV en modulation d'amplitude 88
Amplificateur FI-FM 128
Amplificateur HF-Conversion - Amplification FI-Démodulation AM 33
Amplificateur FI-TV . . 23, 24, 110
Amplificateur lecture enregistrement magnétique . . . 15, 16 17, 18, 32, 45
Amplificateur luminance-chrominance 70, 102
Amplificateur opérationnel . . . 66 116, 123, 126, 127
Amplificateur opérationnel double 45, 116
Amplificateur opérationnel à entrée FET 116
Amplificateur phono RIAA . . 15 16, 17, 18, 32, 45, 125, 127
Amplificateur de sortie trames TV 49
Balayage vertical TV 86, 97
Calculateur électronique 29
Canal son TV 84, 94
Commande alimentation à découpage 108
Commande digitale Tuners TV . 35 39, 40, 42, 44
Commande électronique tonalité 71, 109, 113
Commande électronique volume BF 71, 109
Commandes lignes et trames TV 48, 49, 60
Commande luminence-chrominance Secam/PAL 70
Commande proportionnelle . . 44
Commande radiocassette 80
Commande d'une rangée de diodes luminescentes . . . 90, 120, 121
Commande thyristors 118
Commande tonalité . . . 9, 71, 109 113, 116, 126, 127
Commande touches effleurement 39, 40, 42, 44, 119
Commande transistors de puissance BF 31
Commande triac 10, 65, 66 90, 118, 119
Commutateur de seuil 66
Comparateur double seuil 77
Convertisseur ⩽ 200 MHz 34
Darlingtons complémentaires de puissance 98
Décodeur stéréo . . . 19, 20, 21, 65 78, 81, 125, 128
Démodulateur Secam/PAL . . . 70
Démodulateur synchrone PAL 64
Démodulateur TV avec matrice couleurs 103
Démodulateur vidéo 23, 64, 69, 70
Détecteur de produit BLU . . . 22
Déviation verticale TV 86, 97
Double amplification opérationnel 45, 116
Double amplificateur de puissance BF (stéréo) . 82, 100
Double préamplificateur (stéréo) BF 15, 16, 17, 18 32, 45, 48, 125
Emetteur ultrasons 36
Générateur de fonctions 122
Horloge digitale, affichage LED 117
Horloge digitale, cristaux liquides 28
Indicateur à diodes luminescentes 90, 120, 121
Ligne à retard analogique . . 30, 83
Minuterie d'escalier 118

Monostable 77
Multistabilisateur 72
Multivibrateur 77, 123, 126
Orgue électronique 38
Oscillateur Lignes TV 60
64, 105
Préamplificateur + amplificateur de puissance BF 80, 82
Préamplificateur BF double (stéréo) 15, 16, 17, 18, 32
45, 48, 125
Préamplificateur pour enregistreur magnétique 89
Préamplificateur et matrice TV couleurs 57
Pupitre mélange 17, 32, 116
Radioréception AM 13, 33
68, 87, 114
Récepteur AM/FM. . . . 59, 96, 115
Récepteur commande à ultra-sons 35, 37
Régénérateur sous-porteuse TV 58
Régulateur de tension 25, 26
27, 69, 72
Régulation proportionnelle de température 90, 118
Séparation-synchronisation lignes TV 93, 106, 111
Surveillance accumulateur . . . 77
Télécommande proportionnelle . 44
Télécommande téléviseurs . . . 35
36, 37, 39, 40, 42, 44, 121
Traitement vidéo 48, 49
60, 111
Trigger 66, 77, 123
Voie son TV 84, 94
Voltmètre alternatif 123
Voltmètre continu 126
Vu-mètre à LED 90, 120, 121

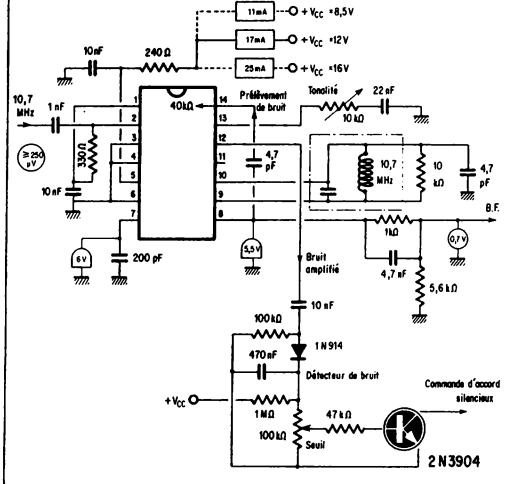
Amplif.-démodulateur F.M.

Réjection A.M. : 55 dB

Distorsion : 1 %

CA 3075

Fairchild _ R.C.A.



Amplif.-démodulateur F.M.

Réjection A.M. : 55 dB

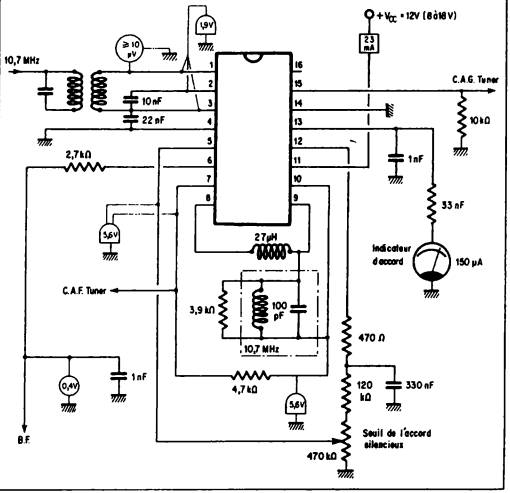
Rapport signal/bruit : 67 dB

Accord silencieux intégré

Distorsion < 0,5 %

CA 3089

R.C.A. _ R.T.C. _ Signetics



B.F. puissance 8 à 20 W

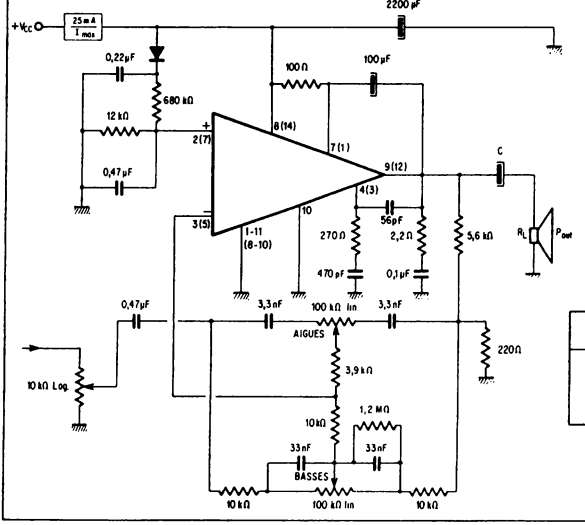
Gain en tension : 29 dB
Bruit à l'entrée : 4 µV
Bande passante 40 Hz à 20 kHz

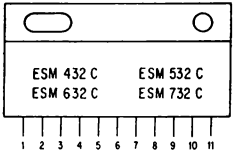
ESM 432, ESM 532, ESM 632, ESM 732

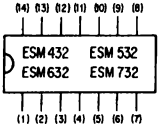
Sescosem | ESM 432 C = TDA 1111 SP

	ESM 532	ESM 432	ESM 632	ESM 732
V_{CC} (V)	30	28	24	14
R_L (Ω)	8	4	4	2
P_{out} (W)*	10	20	14	8
C (µF)	1000	2200	2200	3300
I_{max} (A)	0,6	1,1	0,8	0,9

* Pour 1 % de distorsion





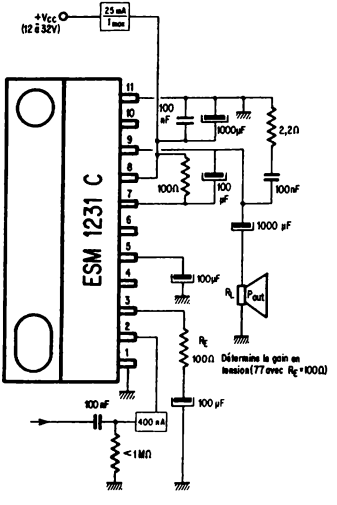


ESM 432 N, ESM 532 N, ESM 632 N, ESM 732 N : Comme ci-dessus, mais surmonté d'un radiateur.

B.F. puissance 8 à 20 W

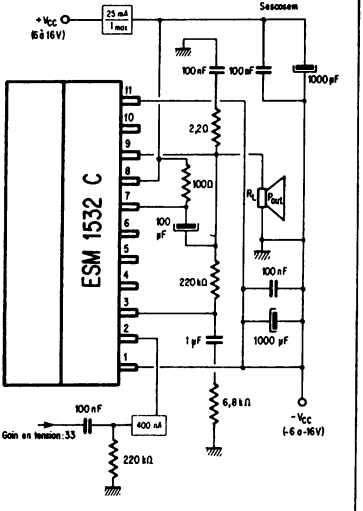
Bruit à l'entrée : 3 µV (ESM 1532 C)

ESM 1231 C
ESM 1532 C



V_{CC} (V)	R_L (Ω)	P_{out}* (W)	I_{max} (A)
28	4	20	1
24	4	14	0,8
14	2	8	1

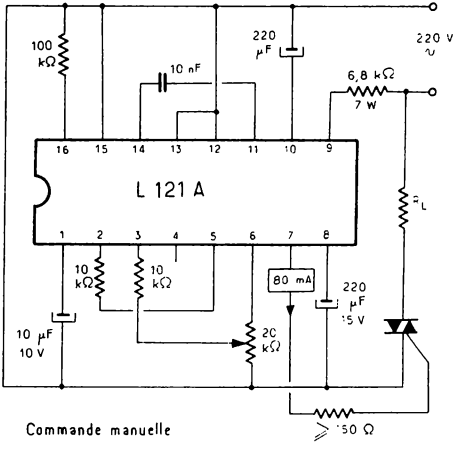
* Pour une distorsion de 1 %



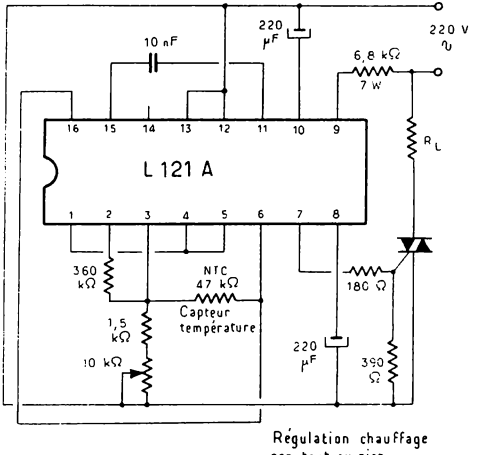
Commande triac

L 121 A

SGS



Commande manuelle



Régulation chauffage par tout ou rien

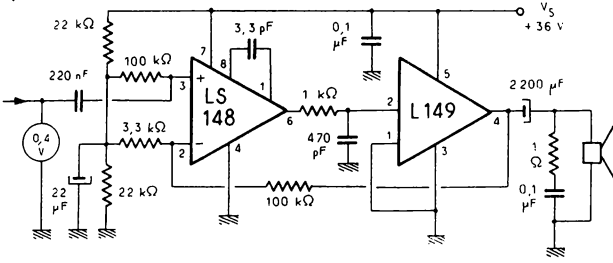
B.F. Puissance 12 à 20 W – L 149

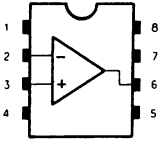
Amplif. opérationnel – LS 148

G_V = 30 dB

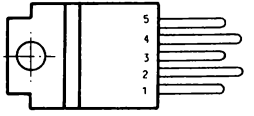
L 149
LS 148

SGS

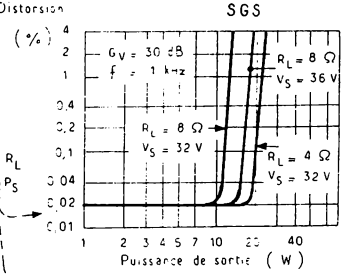


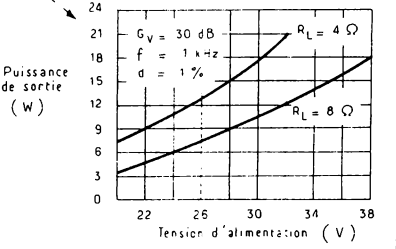


LS 148



L 149



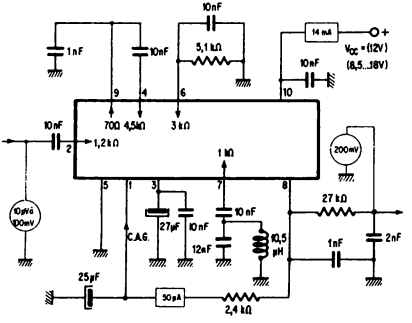


Amplif. et démodulateur F.I.

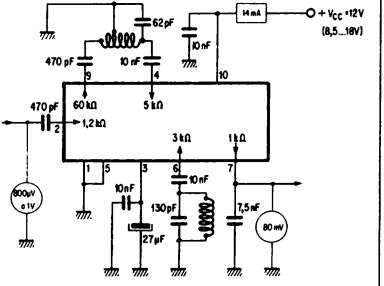
Distorsion : 1,5% en F.M., 5 % en A.M.

LM 373

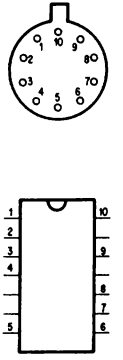
National Semiconductor



A.M. – 455 kHz



F.M. – 10,7 MHz

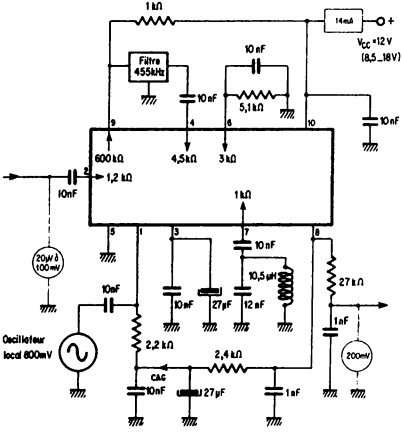


Radioréception A.M.

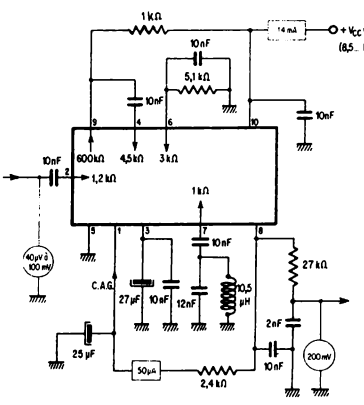
Distorsion 5 %
C.A.G. = 70 dB

LM 374

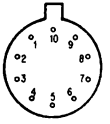
National Semiconductor

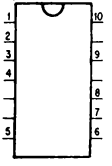


CONV.-AMPLIE-DÉMODULATION-A.M.



AMPLIF. FI-DÉMODULATION-A.M.



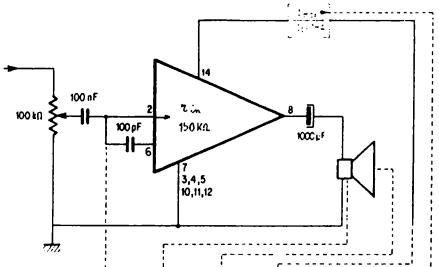


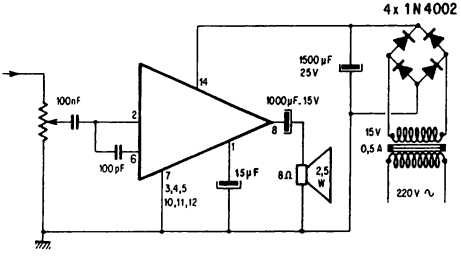
B.F. Puissance 1 à 4 W

GV = 34 dB

LM 380

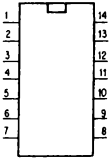
National Semiconductor

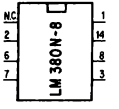




V_{in} (mV_{eff})	R_L (Ω)	P_{out} (W)	V_{CC} (V)	I_{max} (A)
80	4	1	9	0,22
100	8	1	12	0,17
100	4	2	12	0,33
120	8	2,2	15	0,23
140	16	1,8	18	0,16
160	16	2,7	22	0,18
160	8	4	22	0,32

Radiateur : surface cuivrée de 20 cm^2, soudée sur 3,4,5,10,11,12.





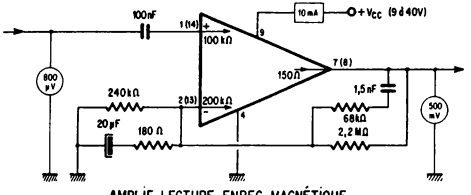
Sans possibilité radiateur, $P_{out} < 2W$

Double préamplif. B.F.

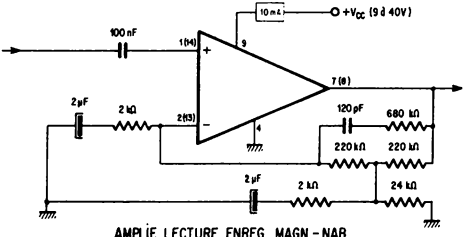
Bruit : 0,7 µV
Gain : 160 000 max.
Distorsion : 0,1 %

LM 381

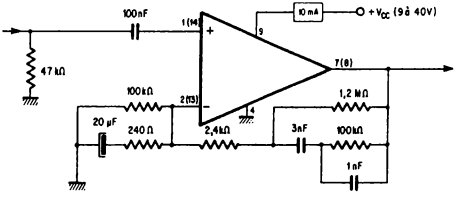
National Semiconductor
R.T.C. - Signetics



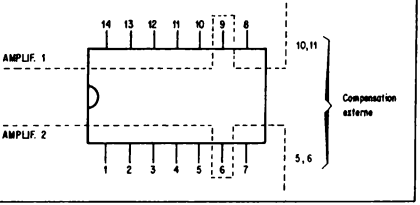
AMPLIF. LECTURE ENREG. MAGNÉTIQUE



AMPLIF. LECTURE ENREG. MAGN. - NAB



AMPLIF. LECTURE PHONO-TÊTE MAGN.

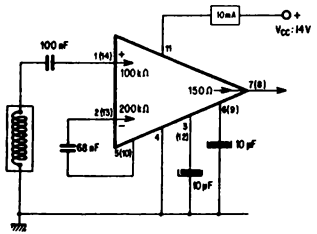


Double Préamplif. B.F.

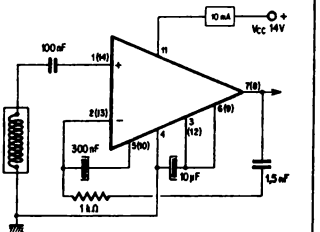
GV = 40 à 80 dB
0 à 75 kHz

LM 382

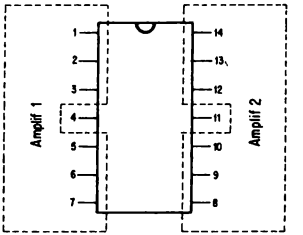
National Semiconductor
R.T.C. - Signetics

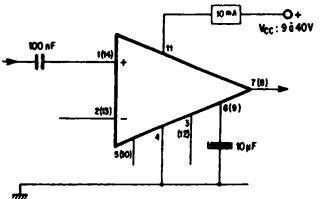


Amplif. lecture bande magn. (NAB)

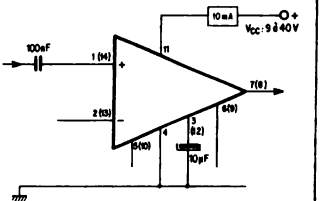


Préamplif. phono (RIAA)

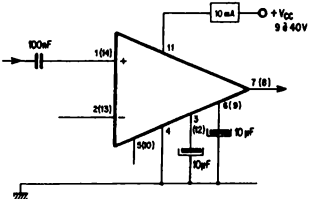




Amplif. lin., GV = 40 dB



Amplif. lin., GV = 55 dB



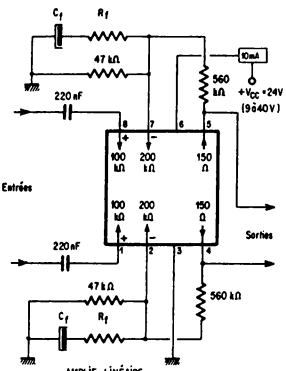
Amplif. lin., GV = 80 dB

Double préamplificateur

Facteur de bruit 1,6 dB

LM 387

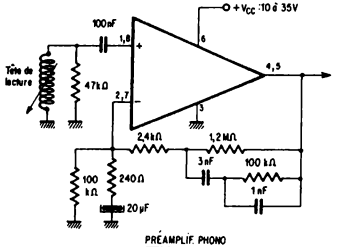
National Semiconductor
R.T.C. - Signetics



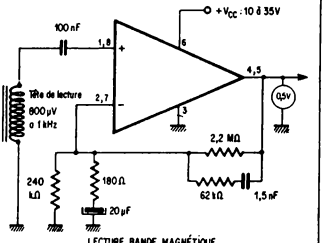
AMPLIF. LINÉAIRE

R_f détermine le gain en tension

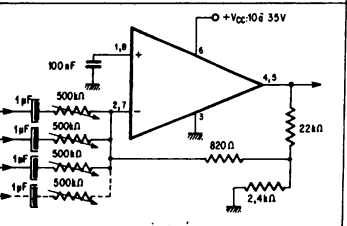
G_v	10	40	125	400	1200
R_f (kΩ)	∞	22	4,7	1,5	0,47
C_f (pF)	0	10	22	47	100



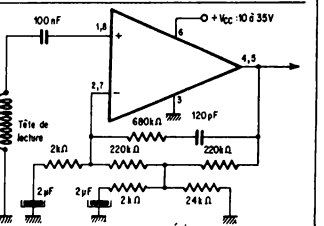
PRÉAMPLIF. PHONO



LECTURE BANDE MAGNÉTIQUE



PUPITRE MÉLANGE



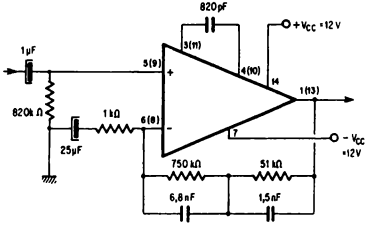
LECTURE BANDE MAGNÉTIQUE NAB

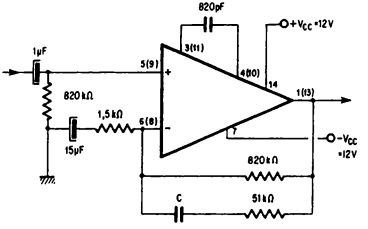
Double préamplif. B.F.

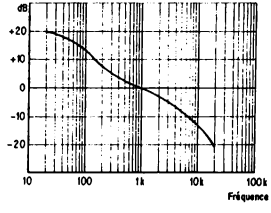
Gain 10 000 max.
Séparation 70 dB

LM 1303

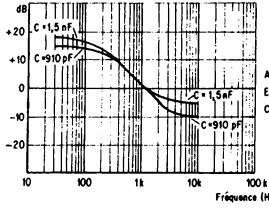
National Semiconductor
= MC 1303P Motorola



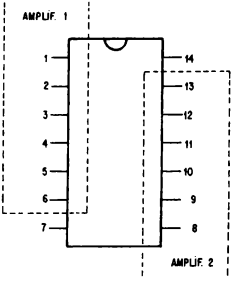




AMPLIF. PHONO
CORR. RIAA



AMPLIF. LECTURE
ENREG. MAGN.
CORR. NAB



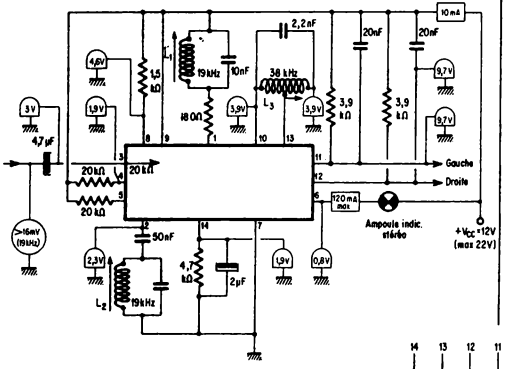
2,12 : Compensation Sortie

Décodeurs stéréo

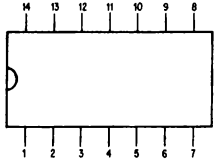
Séparation 45 dB à 1 kHz
Commutation automatique mono/stéréo
Distorsion: 0,5 %

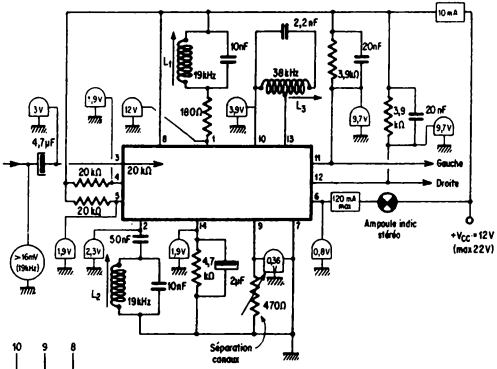
LM 1304-LM 1305

National Semiconductor



LM 1304





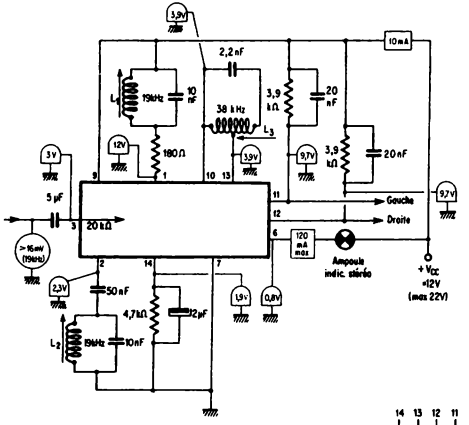
LM 1305

Décodeurs stéréo

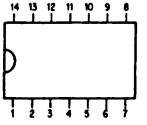
Séparation 45 dB à 1 kHz
Distorsion 0,5 %

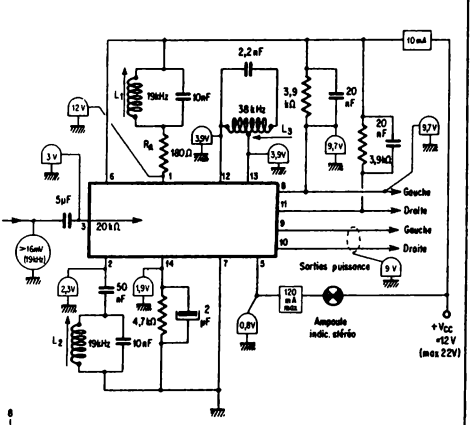
LM 1307-LM 1307E

National Semiconductor
• MC 1307 P Motorola
• SN 76110 Texas Instruments



LM 1307





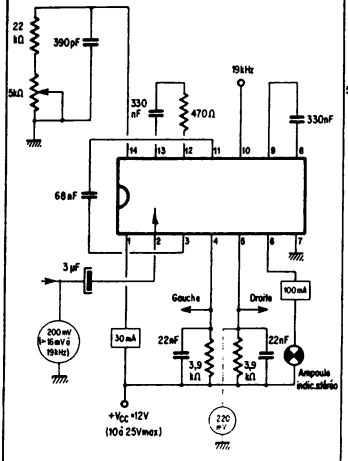
LM 1307 E

Décodeurs stéréo.

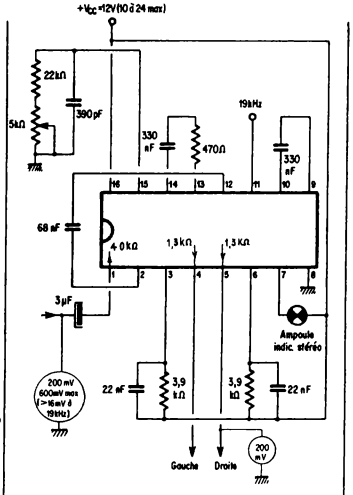
Verrouillage de phase
Séparation 40 dB à 1 kHz
Distorsion < 1 %

LM 1310 - LM 1310 E
LM 1800

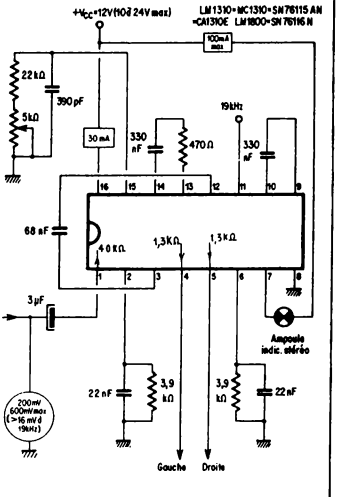
National Semiconductor
LM 1310=MC1310=SN76115 AN
=CA1310E LM1800=SN76116 N



LM 1310



LM 1310 E



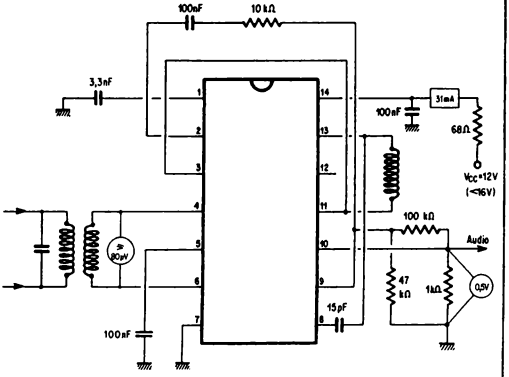
LM 1800

Amplif. démodulateur F.I. F.M.

LM 1351

National Semiconductor
•MC1351 Motorola

Gain : 65 dB
Distorsion : 1 %
Réjection A.M. : 45 dB

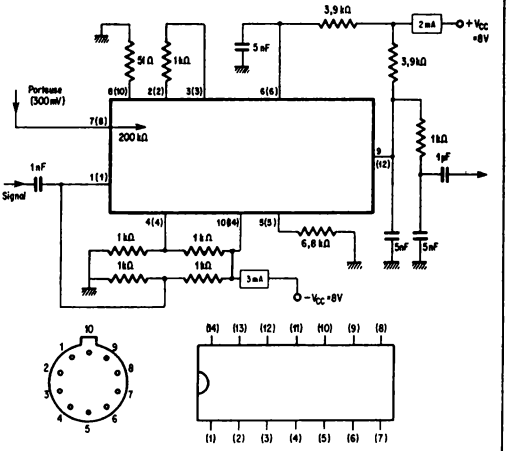


Détecteur de produit BLU

LM 1496

National Semiconductor
•MC 1496 Motorola

Bande 300 MHz
Gain : 3,5



Amplif. F.I TV (MC 1349)

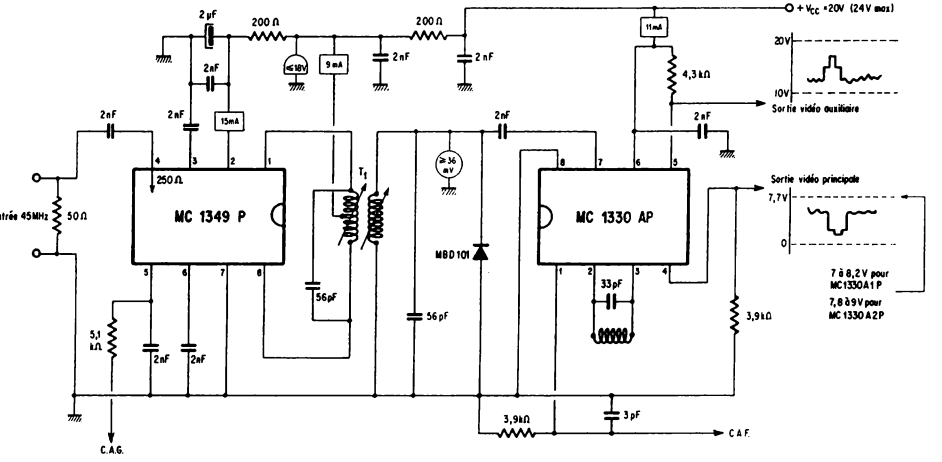
Gain: 60 dB - C.A.G. : 80 dB - Facteur bruit : 8,5 dB

Démodulateur vidéo (MC 1330)

Bande 10,8 MHz

MC 1330 AP
MC 1349 P

Motorola



Amplif. F.I.

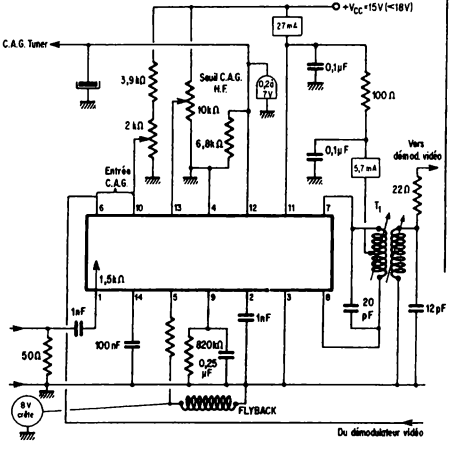
Vidéo-T.V.

Gain : 52 dB

C.A.G. Tuner croissante : MC 1352 = CA1352 E
et décroissante : MC 1353

MC 1352
MC 1353

Motorola



Amplif. Démodulateur

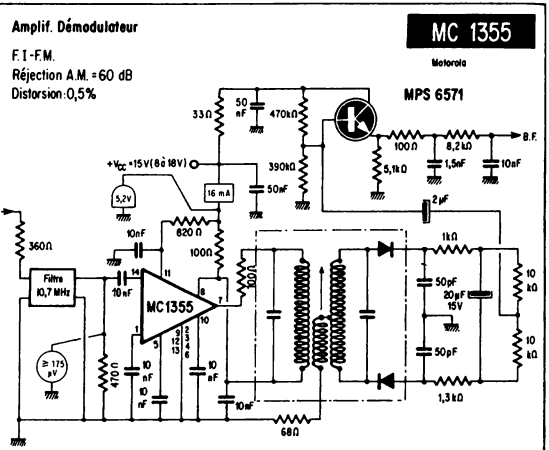
F.I - F.M.

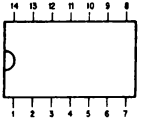
Réjection A.M. = 60 dB

Distorsion : 0,5 %

MC 1355

Motorola



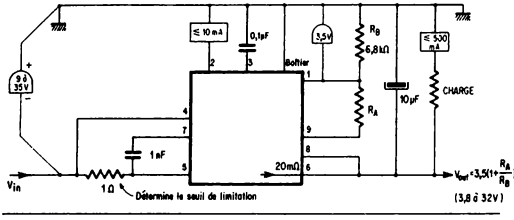


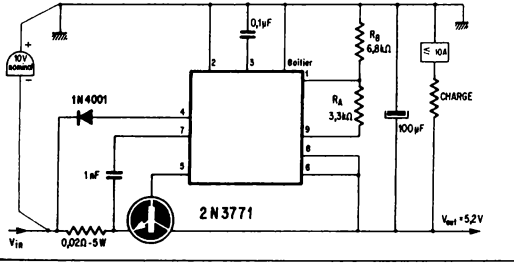
Régulateur - tensions négatives

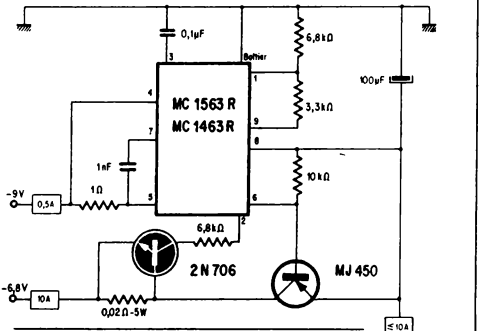
Dissipation 9W à 25° C au boîtier
$\Delta V_{out}/\Delta T = \pm 0{,}002\ \%/°C$

MC 1463

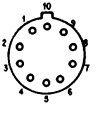
Motorola



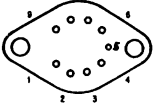




MC 1463 G



MC 1463 R

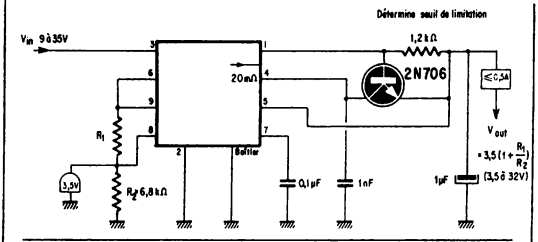


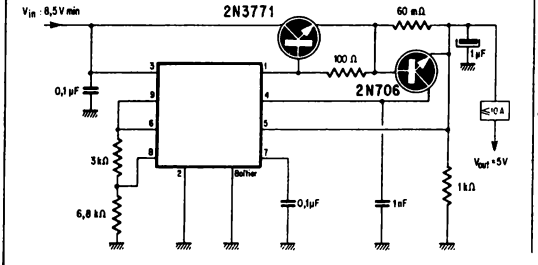
Régulateur_tensions positives

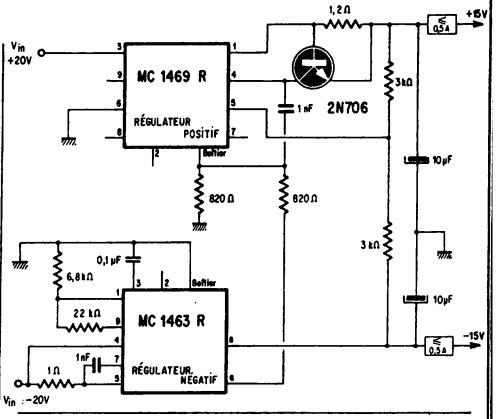
Dissipation 17,5 W à 25 °C au boîtier
$\Delta V_{out} / \Delta T = \pm 0{,}002\% / °C$

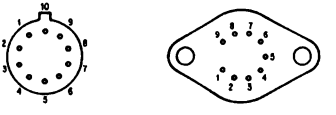
MC 1469

Motorola









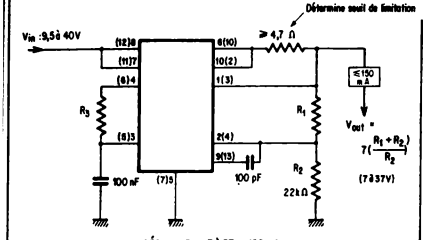
Régulateur tension

$\Delta V_{out} / \Delta T = \pm 0{,}003\,\%/°C$

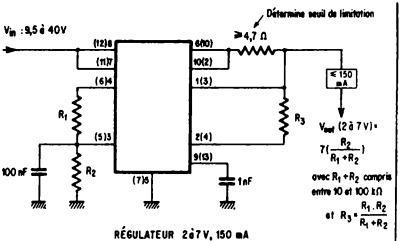
MC 1723 C

Motorola

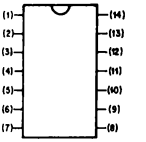
•LM 723,μA723,CA723T



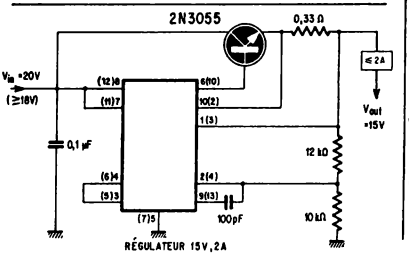
RÉGULATEUR 7 à 37V, 150 mA



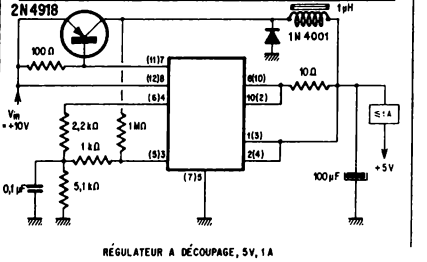
RÉGULATEUR 2 à 7V, 150 mA



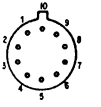
MC 1723 CP
(LM 723 CN)
(μA 723 PC)



RÉGULATEUR 15V, 2A



RÉGULATEUR A DÉCOUPAGE, 5V, 1A



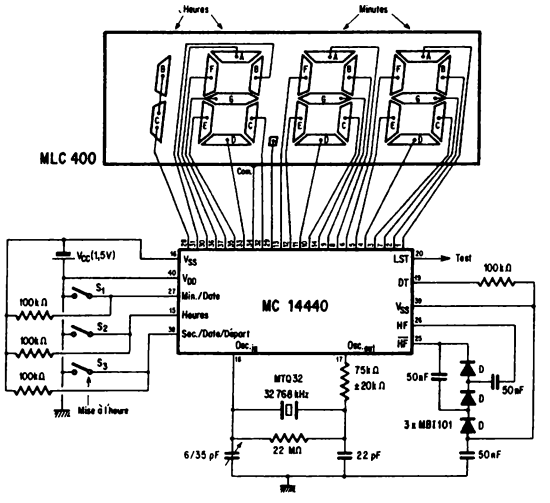
MC 1723 CG
(LM 723 CH)
(μA 723 HC)

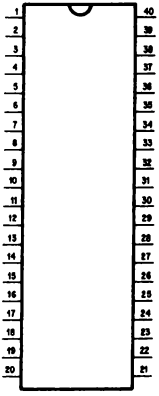
Horloge digitale

0 à 12 heures_Affich. Cristaux liquides (MLC 400)

MC 14440

Motorola



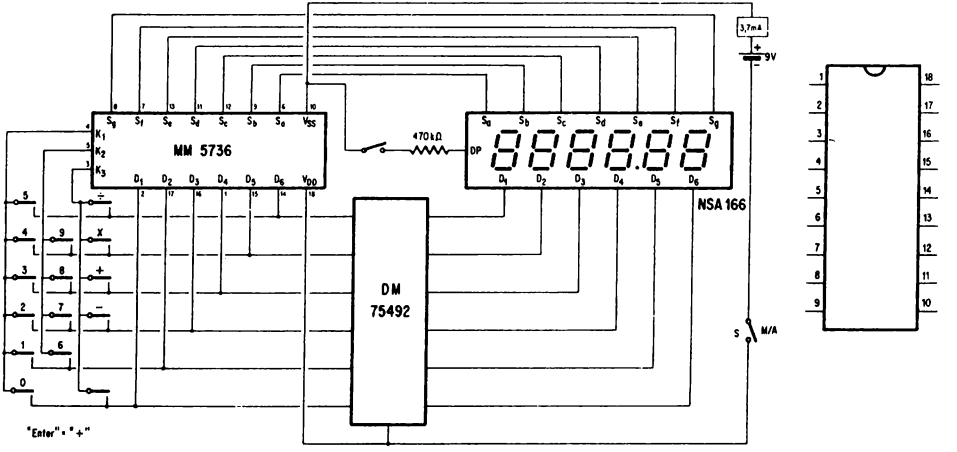


Calculateur électronique

Notation polonaise inversée
Virgule fixe

MM 5736

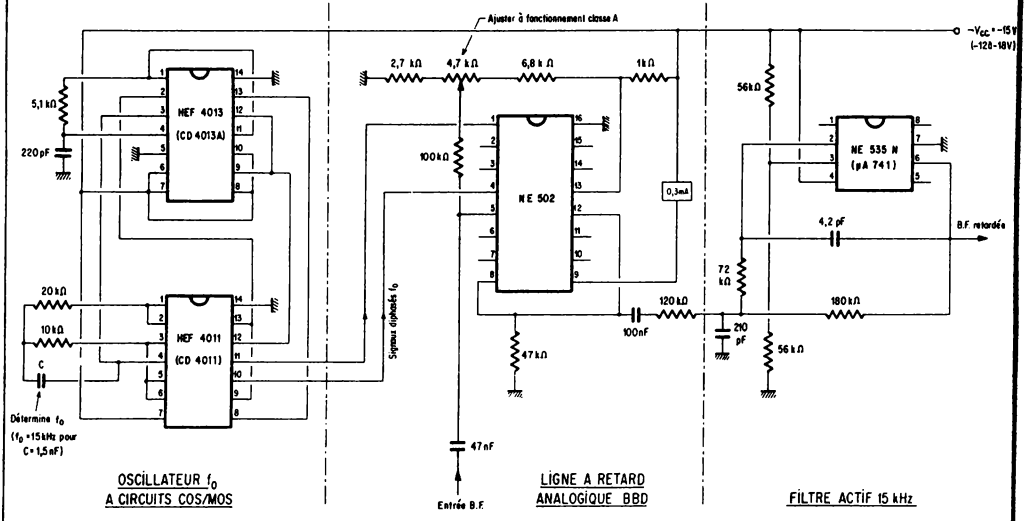
0 à 70°C
National Semiconductor



Ligne à retard analogique BBD

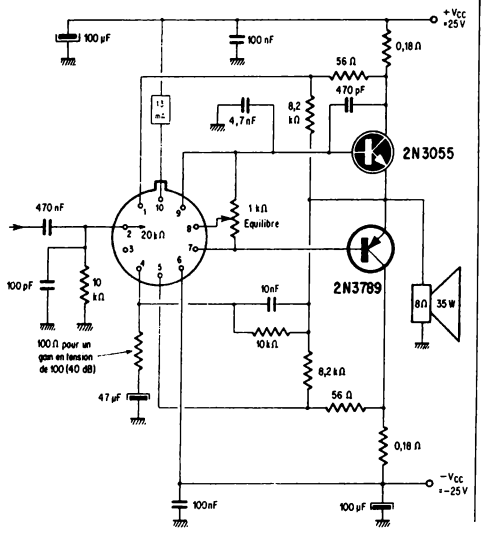
Retard : $512/2f_0$ (0,51 à 51ms)
f_0 : 5 à 500 kHz)

NE 502



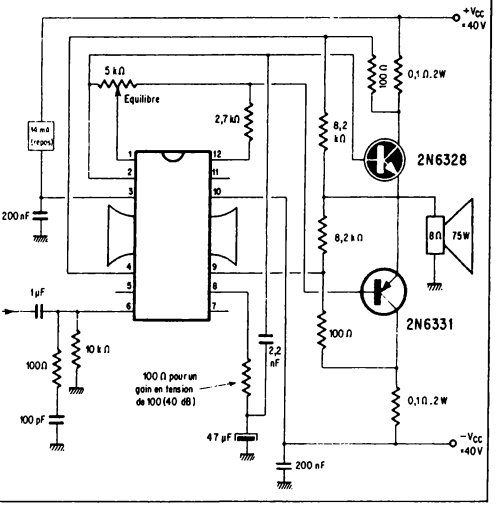
Commande transistors puissance B.F. 35W — NE 540

R.T.C. - Signetics



Commande transistors puissance B.F. 75W — NE 541

R.T.C. - Signetics

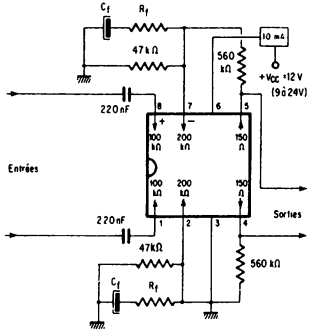


Double préamplificateur B.F.

Facteur de bruit : 1,6 dB

NE 542

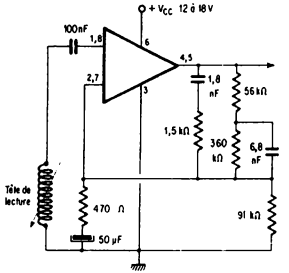
R.T.C. - Signetics



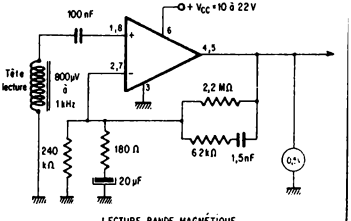
AMPLIF. LINÉAIRE

R_f détermine le gain en tension

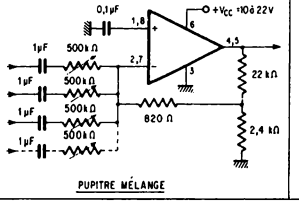
G_v	10	40	125	400	1200
R_f (kΩ)	∞	22	4,7	1,5	0,47
C_f (pF)	0	10	22	47	100



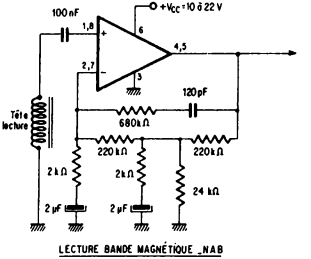
PRÉAMPLIF PHONO RIAA



LECTURE BANDE MAGNÉTIQUE



PUPITRE MÉLANGE



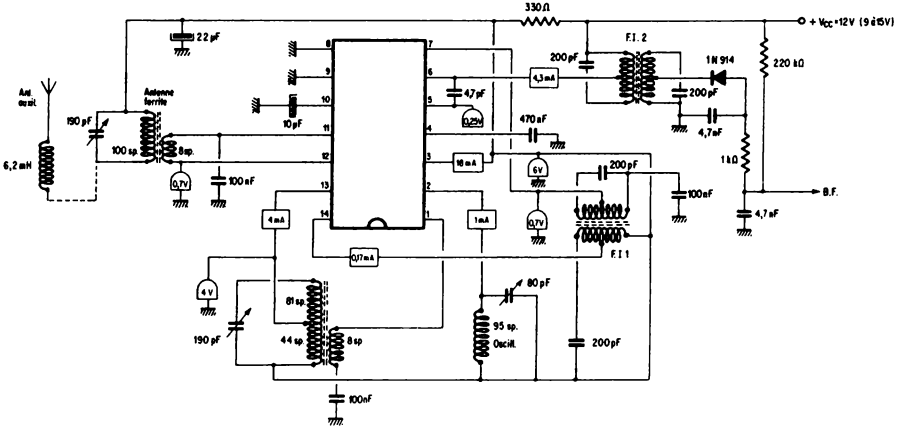
LECTURE BANDE MAGNÉTIQUE _NAB

Amplif. H.F. - Conversion - F.I. - Démodulation

Radioréception A.M. - C.A.G. (10 µV à 10 mV entrée)

NE 546

R.T.C. - Signetics



Amplif.-démodulateur F.M.

< 35 MHz - Gain 68 dB
Distorsion : 0,55 %
Réjection A.M. : 60 dB

S 041 P
(S 041 E)

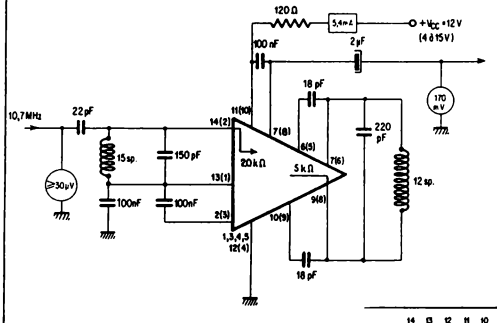
Siemens

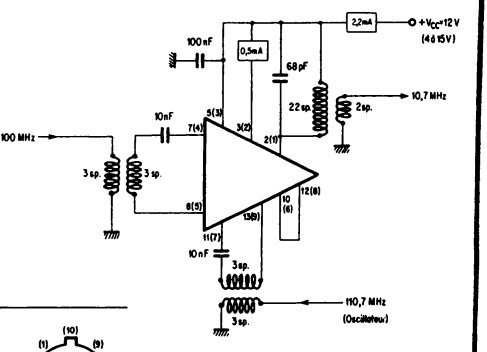
Convertisseur ≤ 200 MHz

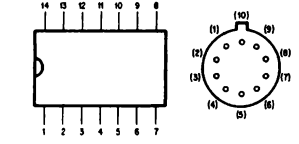
Gain : 16,5 dB à 100 MHz
Facteur de bruit : 7 dB

S 042 P
(S 042 E)

Siemens





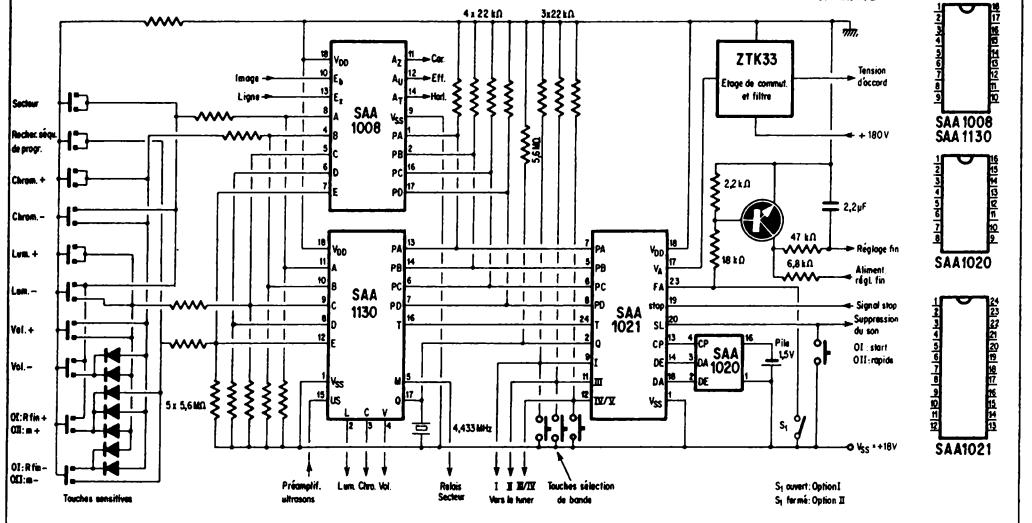


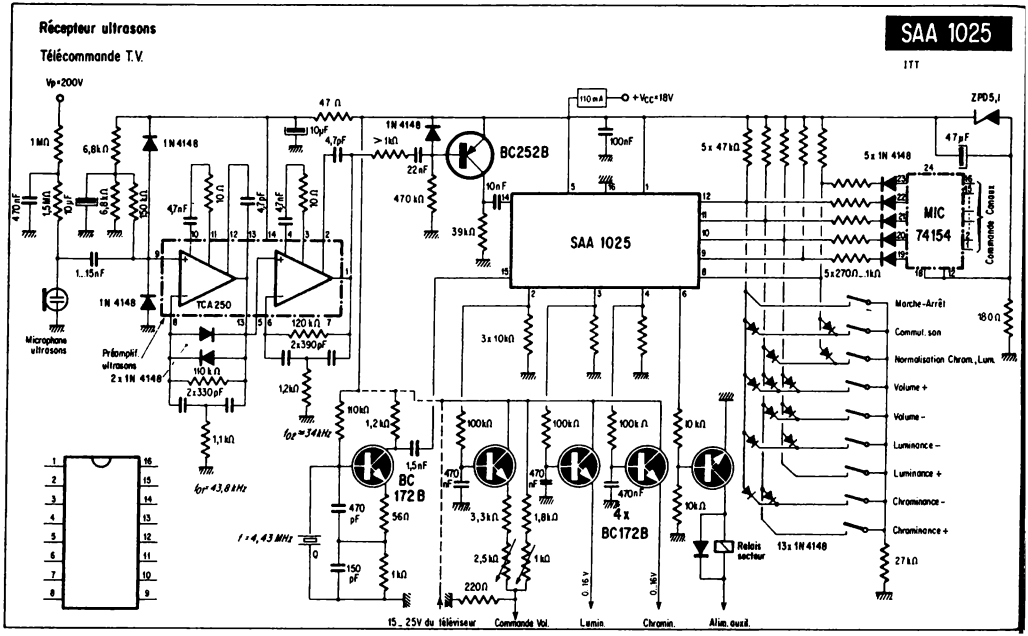
Commande digitale Tuner T.V.

Récepteur commandes ultrasons SAA1130
Affichage numérique par SAA 1008

SAA 1008, SAA 1020, SAA 1021, SAA 1130

ITT - Intermetall



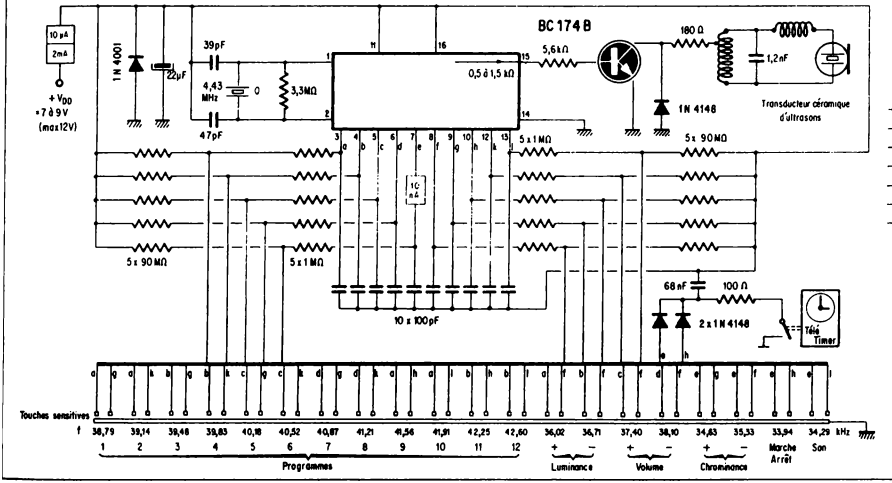

Récepteur ultrasons
Télécommande T.V.
SAA 1025
ITT
Vp=200V
+Vcc=18V
110 mA
ZPD5,1
SAA 1025
TCA 250
BC252B
BC 172B
4x BC172B
MIC 74154
Commande Curseur
Microphone ultrasons
Préampli ultrasons
2x1N 4148
Marche-Arrêt
Commut. son
Normalisation Chrom., Lum.
Volume +
Volume –
Luminance –
Luminance +
Chrominance –
Chrominance +
Relais secteur
13x1N 4148
15..25V du téléviseur
Commande Vol.
Lumin.
Chromin.
Alim. ouxil.
f = 4,43 MHz

Emetteur ultrasons

pour télécommande T.V
30 canaux max.

SAA 1124

ITT-Intermetall

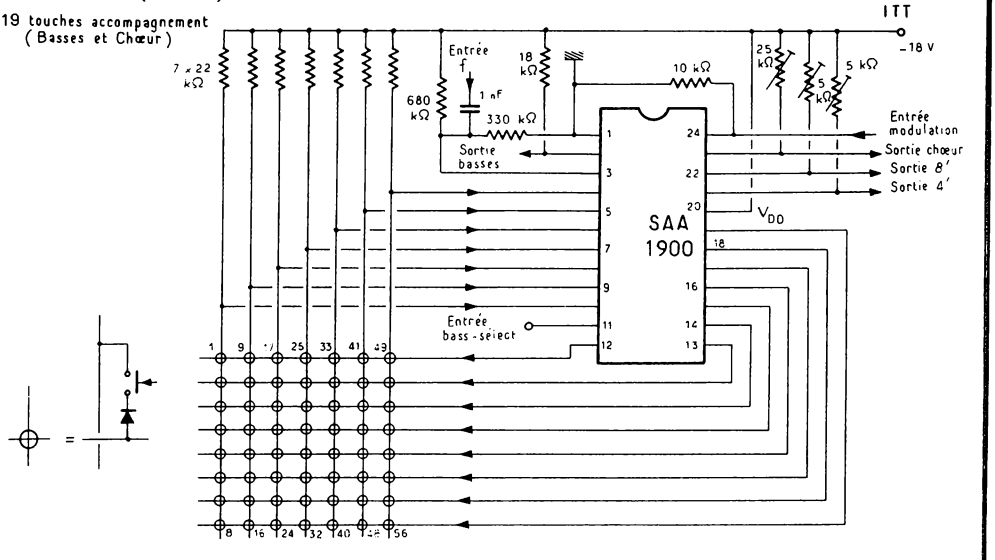


Orgue électronique jouet

37 touches solo (8' et 4')

19 touches accompagnement
(Basses et Chœur)

SAA 1900

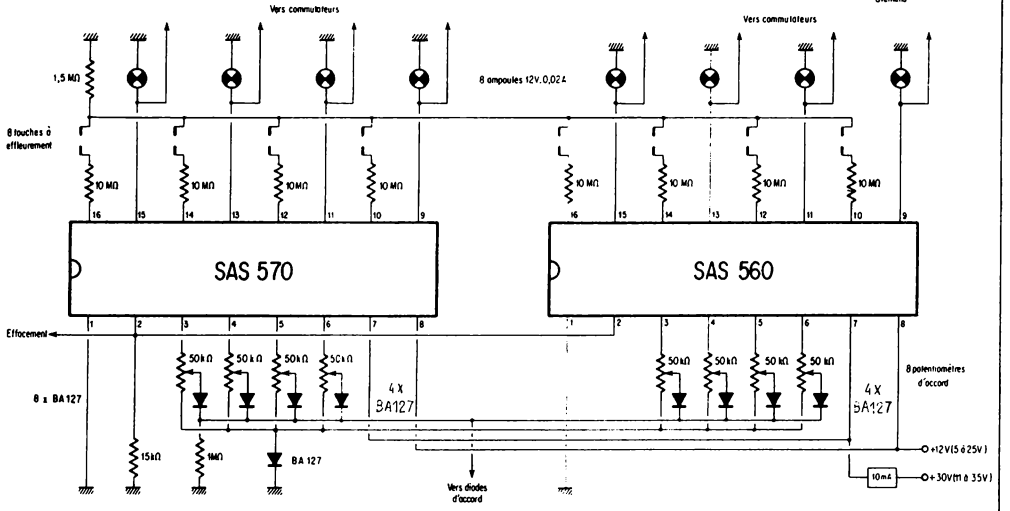


Commande touches effleurement

SAS 560 : Unité de base
SAS 570 : Elargissement

SAS 560
SAS 570

Siemens



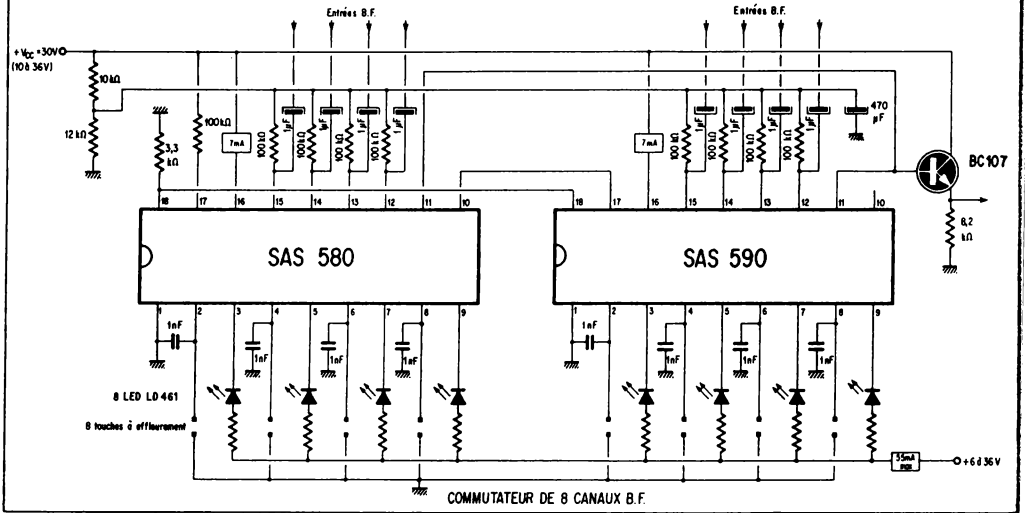
COMMANDE CANAUX TÉLÉVISION

Commande touches effleurement

SAS 580 : Unité de base
SAS 590 : Elargissement

SAS 580
SAS 590

Siemens

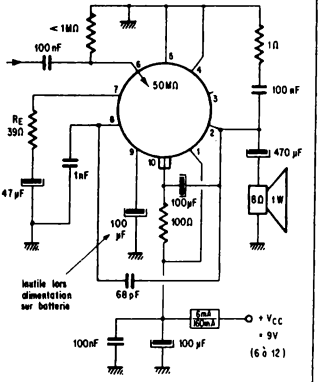


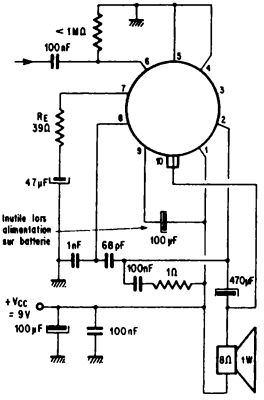
B.F. puissance 1W

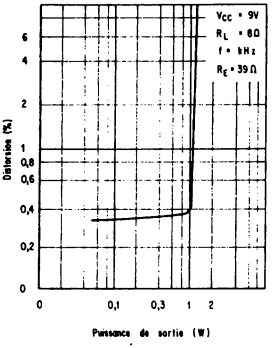
Gain en tension: 46 dB

SFC 2790C

Sescosem





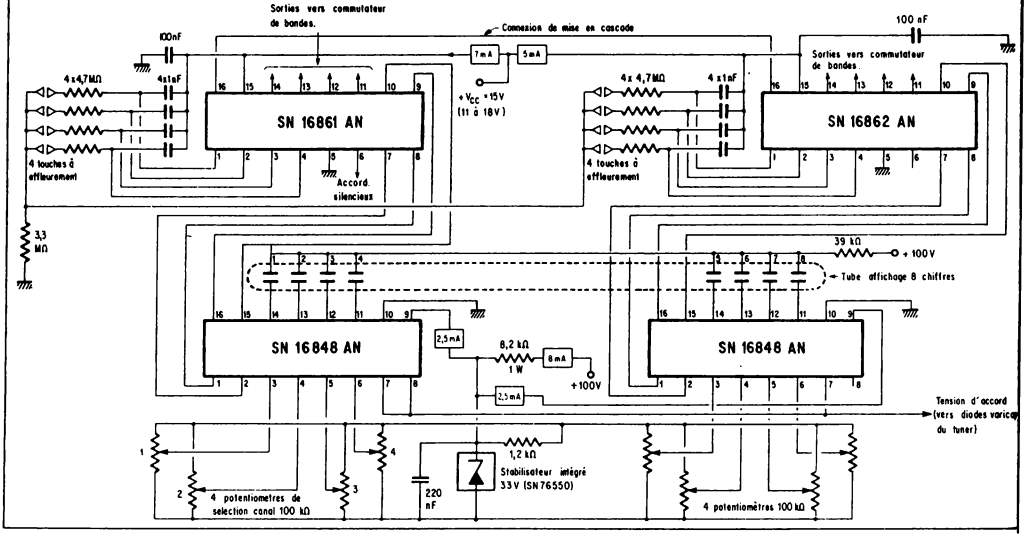


Commande touches à effleurement

Unité de base SN 16861 AN _ Elargissement SN 16862
Commutateur analogique SN 16848 AN

SN 16848 AN
SN 16861/2 AN

Texas Instruments

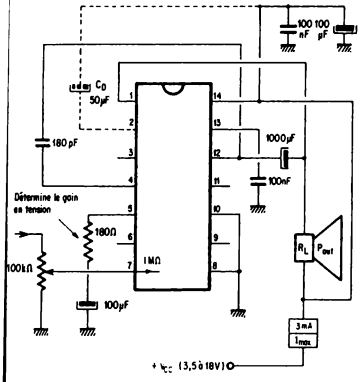


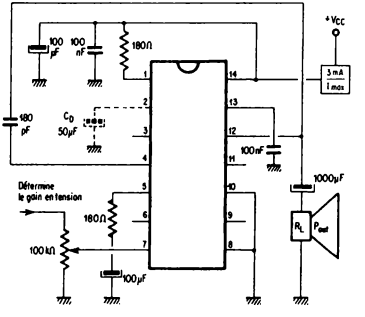
B.F. puissance 0,14 à 2 W

Gain en tension : 33 dB
Rapport signal / bruit : 70 dB

SN 16975

Texas Instruments





C_D est inutile lors alimentation sur batterie

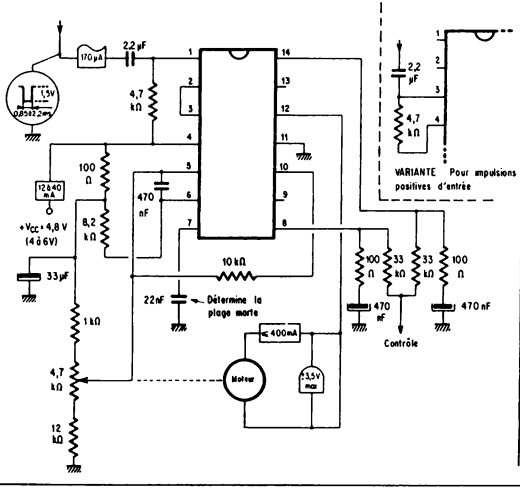
V_{CC} (V)	R_L (Ω)	P_{out} (W)	I_{max} (mA)
3,5	8	0,14	60
3,5	4	0,2	100
9	8	1,2	200
9	4	1,7	300
12	8	2	250

Commande proportionnelle

Télécommande modèles réduits

SN 28654 N

Texas Instruments

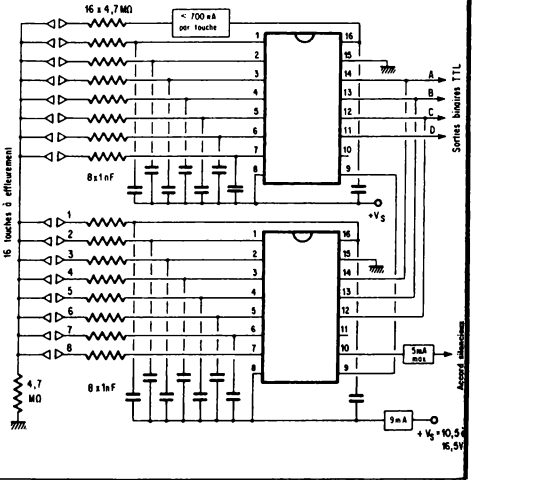


Commande touches à effleurement

Commutation et mémoire pour 16 canaux

SN 29791 N

Texas Instruments

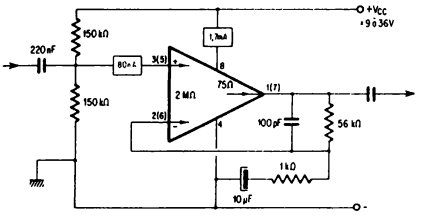


Amplif. opérationnel double

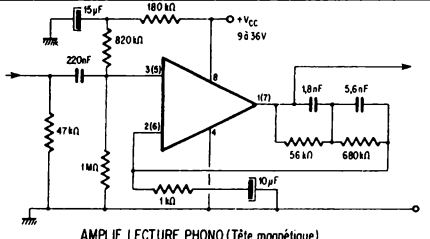
(= 2 x µA 741)

SN 72558

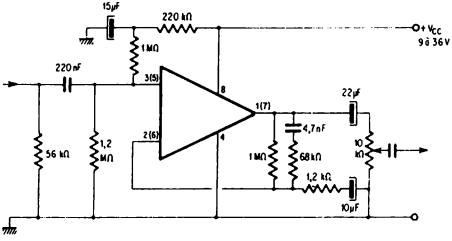
Texas Instruments
- MC1458 Motorola
- CA1458 RCA
- µA1558 Fairchild
- SFC 2458 Sescosem
- N5558 RTC



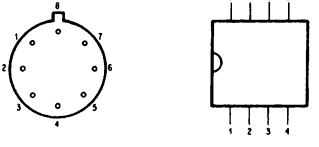
AMPLIF. CORRECTEUR MICROPHONE DYNAMIQUE



AMPLIF. LECTURE PHONO (Tête magnétique)



AMPLIF. LECTURE ENREG. MAGNÉTIQUE

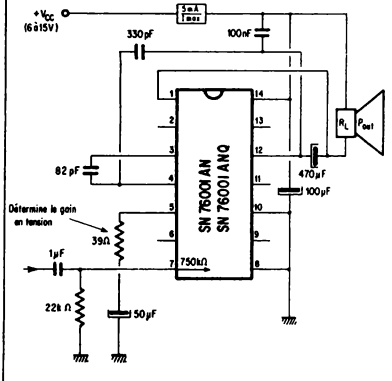


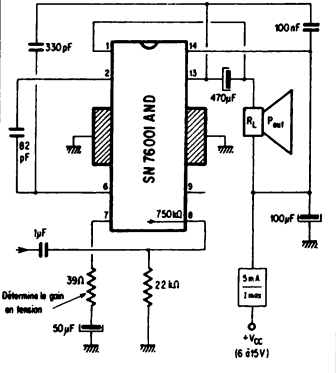
B.F. puissance 0,6 à 3,2 W

Gain en tension : 46 dB

SN 76001 AN/NQ
SN 76001 AND

Texas Instruments





Types		V_{CC} (V)	R_L (Ω)	P_{out} (W)	I_{max} (mA)
SN 76001 AND	SN 76001 AN/NQ	6	4	0,65	160
		9	4	2	300
		9	8	1,1	160
		9	16	0,6	100
		12	4	2,7	300
		12	8	2	240
		12	16	1,2	150
		15	8	3,2	350
		15	16	1,8	160

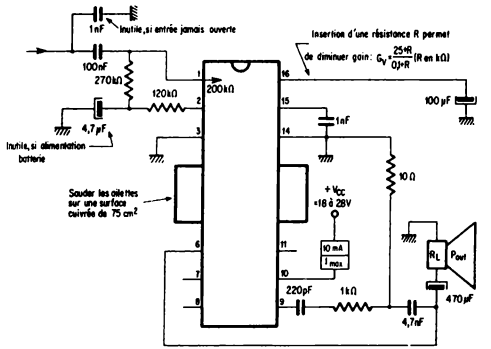
B.F. Puissance ≤ 8 W

SN 76003 N
SN 76013 N

Texas Instruments

SN 76003 N = SN 76033
SN 76013 N = SN 76023

Gain en tension : 46 dB
Bruit en sortie : 1,5 mV
V_{CC} = 35 V max. pour SN 76003
28 V max. pour SN 76013



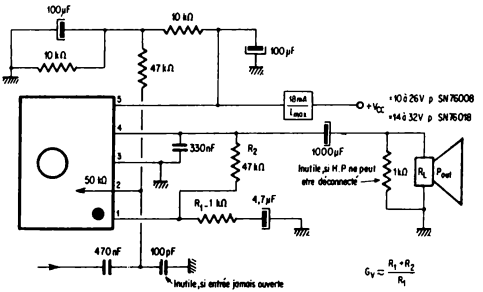
V_{CC} (V)	20	20	24	24	24	28	28	28
R_L (Ω)	15	8	20	15	8	20	15	8
P_{out} à 10% dist. (W)	2,8	4,6	3,2	4,2	6,3	4,8	5,8	8,5
P_{out} à 1% dist. (W)	2	3,5	2,7	3,3	4,8	4	4,7	6,5
I_{max} (mA)	100	150	250	260	420	220	300	500

B.F. Puissance ≤ 12 W

SN 76008
SN 76018

Texas Instruments

Gain en tension : 34 dB
Bruit en sortie < 2 mV
Gain en boucle ouverte : 60 dB



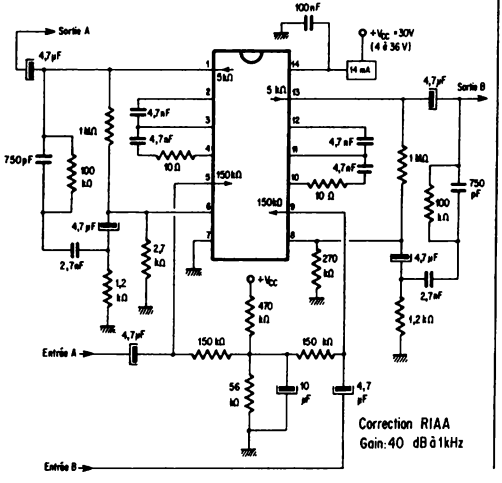
	SN 76018						
	SN 76008						
V_{CC} (V)	12	12	18	18	24	24	28
R_L (Ω)	8	4	8	4	8	4	8
P_{out} à 10% dist. (W)	1,5	2,5	3,5	7	7,5	12	11
P_{out} à 1% dist. (W)	0,9	2	3	5,5	6	10	8,5
I_{max} (mA)	150	250	120	600	420	750	500

Préamplif. stéréo

SN 76131 N

Texas Instruments

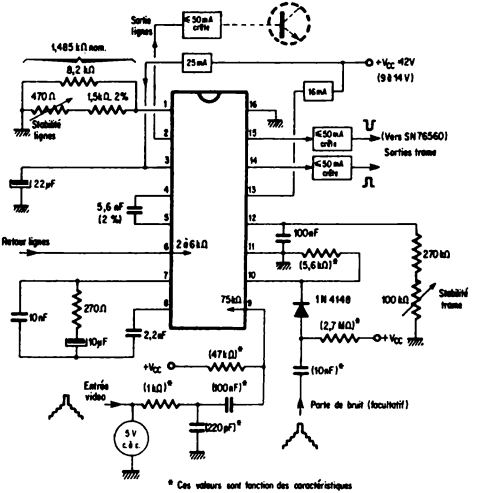
Facteur de bruit : 2 dB
Séparation canaux : 80 dB à 1 kHz



Commande lignes et trames TV

SN 76544

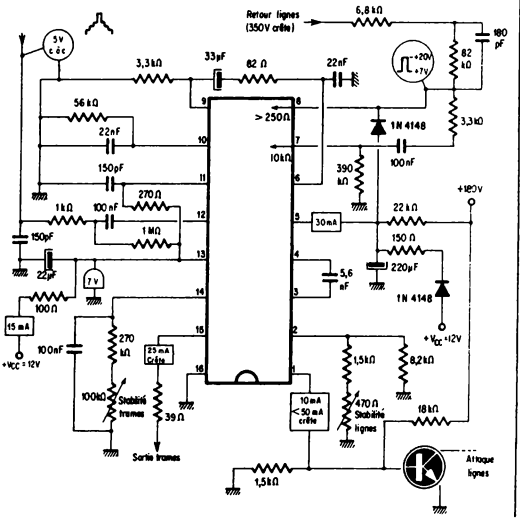
Texas Instruments



Commande lignes et trames TV

SN 76545 N

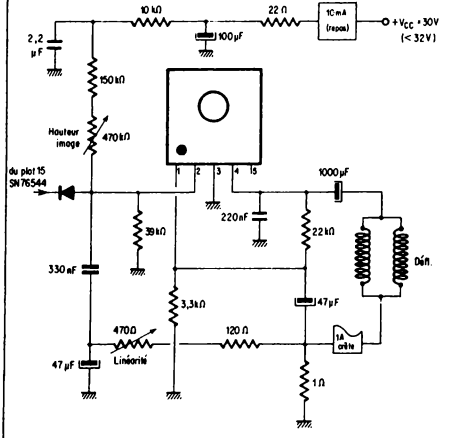
Texas Instruments



Amplif. sortie trames TV

SN 76560 KE

Texas Instruments

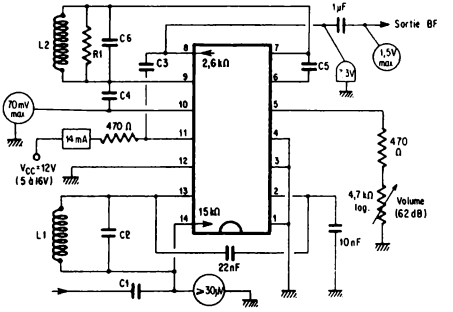


Amplif.-démodulateur F.I.-F.M.

SN 76660

Texas Instruments

Gain à 5,5 MHz : 65 dB
Suppression A.M. : 55 dB

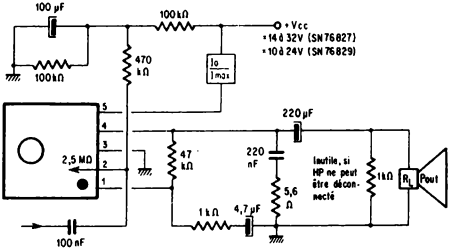


APPLICATION		C1 (pF)	C2 (pF)	C3 (nF)	C4 (pF)	C5 (pF)	C6 (pF)	L1 spires	L2 spires	R1 (kΩ)
Son TV - 5,5 MHz		47	220	22	56	56	1500	20	8	∞
Radio 10,7 MHz	Mono	27	120	22	27	27	470	20	8	∞
	Stéréo	47	150	0,47	30	30	330	15	12	1

B.F. Puissance 2,5 à 12 W

SN 76827
SN 76829

Texas Instruments

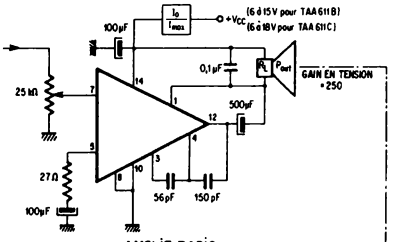


TYPES	SN 76829					SN 76827			
V_{CC} (V)	12	12	14,4	14,4	16	24	26	26	28
R_L (Ω)	4	2	4	2	4	4	8	4	8
P_{out}, dist. 10 % (W)	2,5	4,5	4,5	7,7	5,6	12,5	11	14	11
P_{out}, dist. 2 % (W)	–	–	3,6	6	–	10	8	10	10
Io (mA)	10	10	12	12	14	25	25	25	25
Imax (mA)	300	600	450	750	500	750	600	800	550

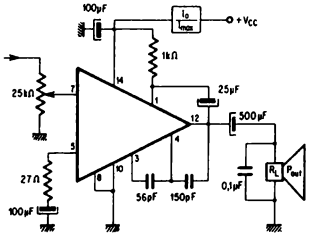
B.F. Puissance 1 à 3,3 W

TAA 611 B
TAA 611 C

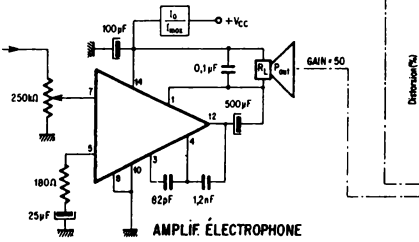
S.G.S - Ates



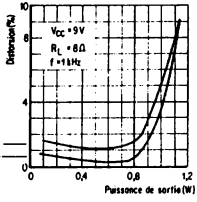
AMPLIF. RADIO

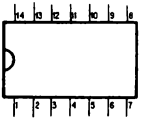


AMPLIF. RADIO (H.P. A LA MASSE, GAIN = 250)



AMPLIF. ÉLECTROPHONE





TAA 611 B, R_L = 8 Ω		
V_{CC} (V)	9	12
P_{out} (W)	1,15	2,1
I_o (mA)	3	3,5
I_{max} (mA)	170	235

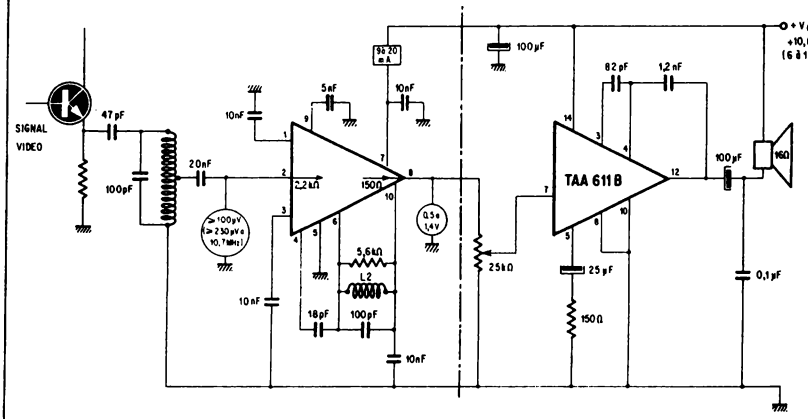
TAA 611C					
V_{CC} (V)	9	9	12	15	15
R_L (Ω)	4	8	8	8	16
P_{out} (W)	1,8	1,2	2,1	3,3	1,9
I_o (mA)	3	3	3,5	4	4
I_{max} (mA)	250	170	235	300	170

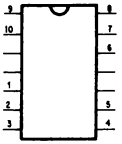
Amplif._démodulateur F.M.

Distorsion 1% _Réjection A.M. 45 dB

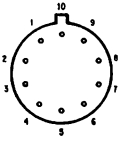
TAA 661

Sescosem. S.G.S. - Ates





TAA 661 BX2



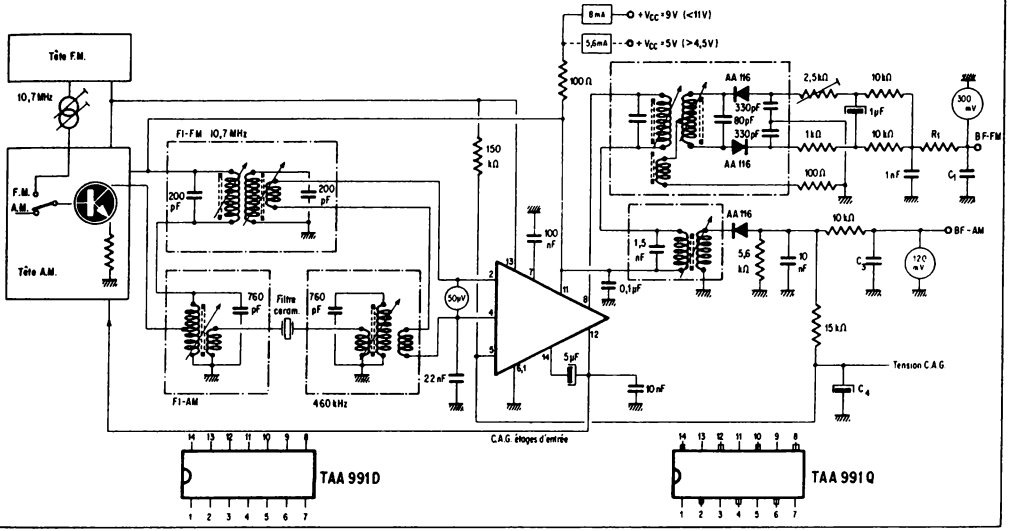
TAA 661 A55

Amplif. F.I A.M.-F.M.

Gain > 80 dB - C.A.G > 50 dB

TAA 991 D

Siemens

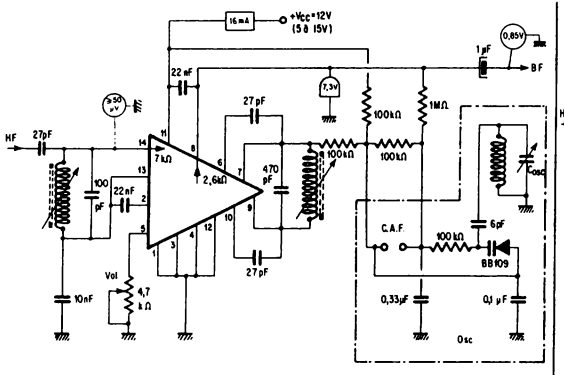


Amplif.-démodulateur F.M.

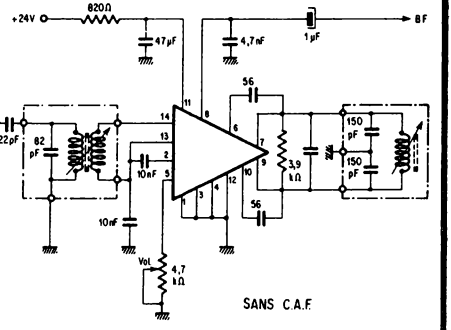
≤ 35 MHz _ Gain: 60 dB _ Distorsion: 1,8 %
Commande volume : 60 dB

TBA 120 A

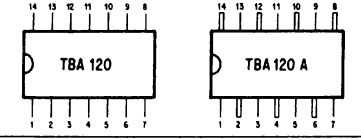
RTC _ Siemens



AVEC C.A.F.



SANS C.A.F.

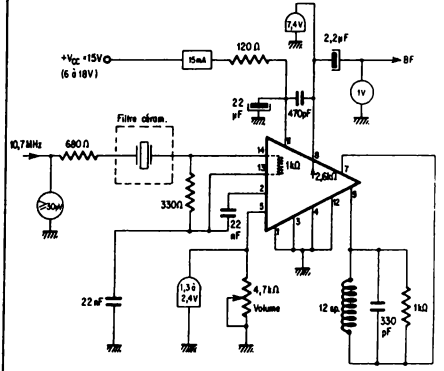


Amplif. démodulateur F.M.

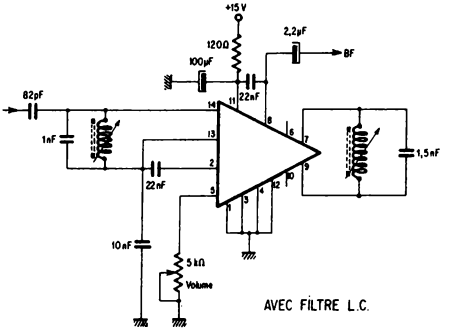
≤12 MHz - Gain: 68 dB - Distorsion: 1,3 %
Commande volume: 75 dB

TBA 120 S/AS

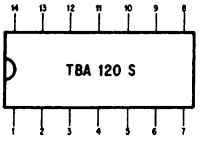
RTC - Siemens - Telefunken
• SN 76620AN Texas Instruments

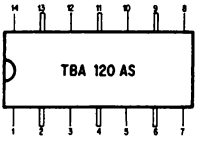


AVEC FILTRE CÉRAMIQUE



AVEC FILTRE L.C.



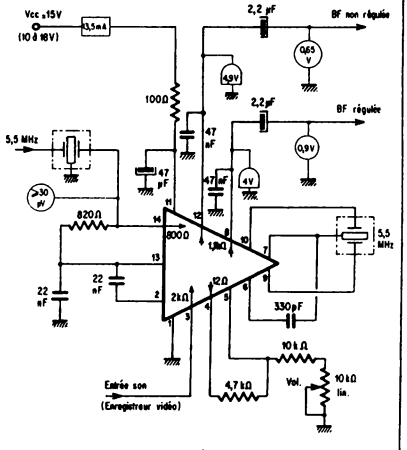


Amplif-démodulateur F.M.

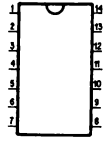
Gain 68 dB - Distorsion 1 % - Gain B.F. : 30 dB max
Commande volume : 85 dB - Réjection A.M. : 60 dB

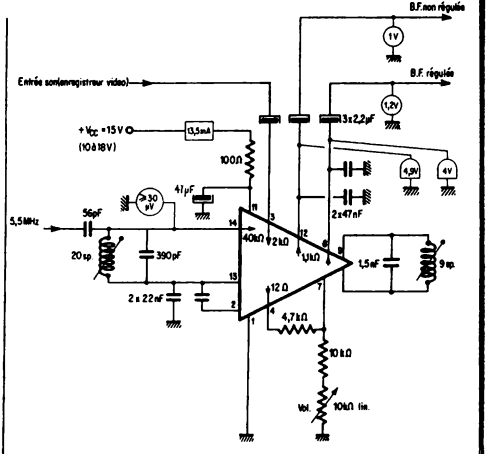
TBA 120 T
TBA 120 U

RTC - Siemens - Telefunken
Motorola - Sescosem



TBA 120T - FILTRES CÉRAMIQUES





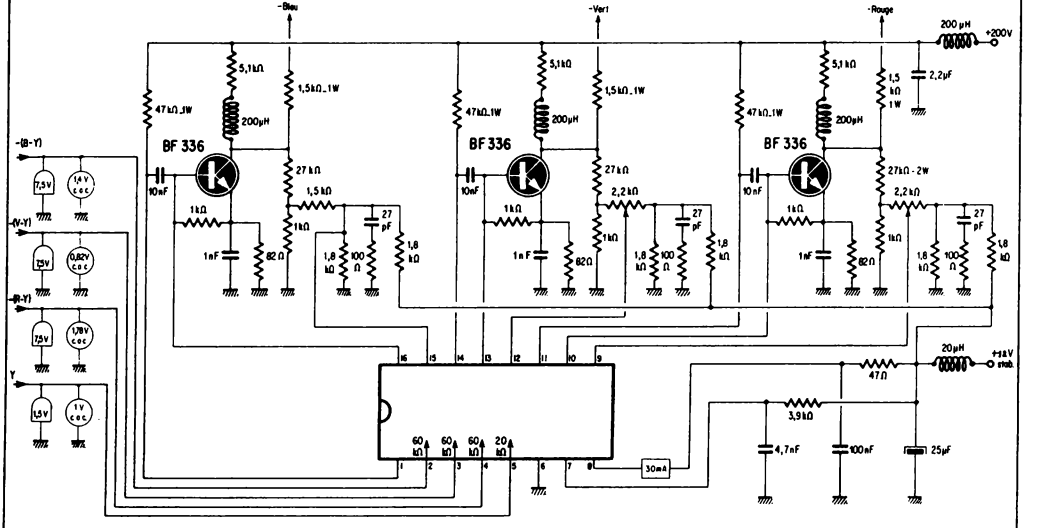
TBA 120U - FILTRES LC

Préamplif. et matrice TV couleurs

Gain 100 _ Bande 6 MHz

TBA 530

RTC _ Telefunken
Fairchild

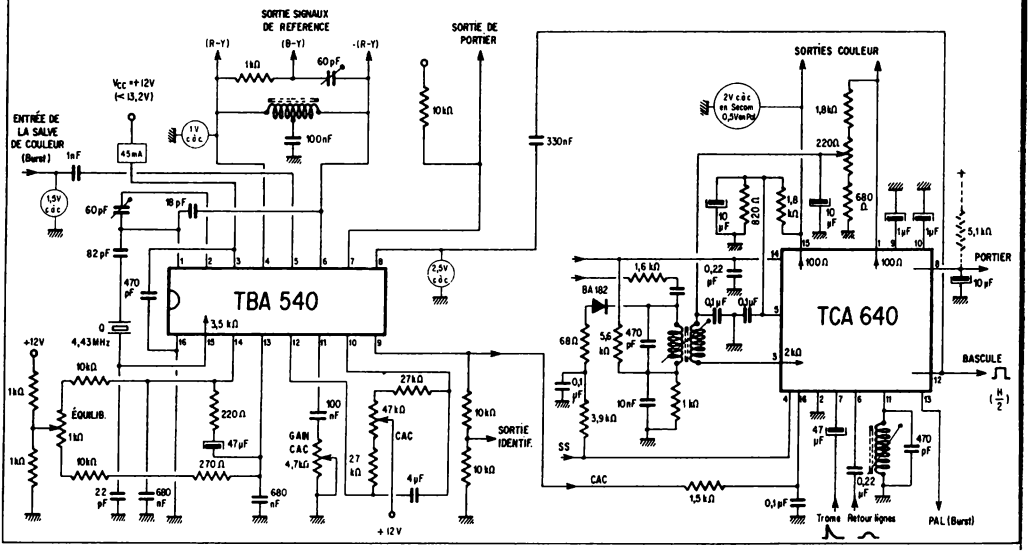


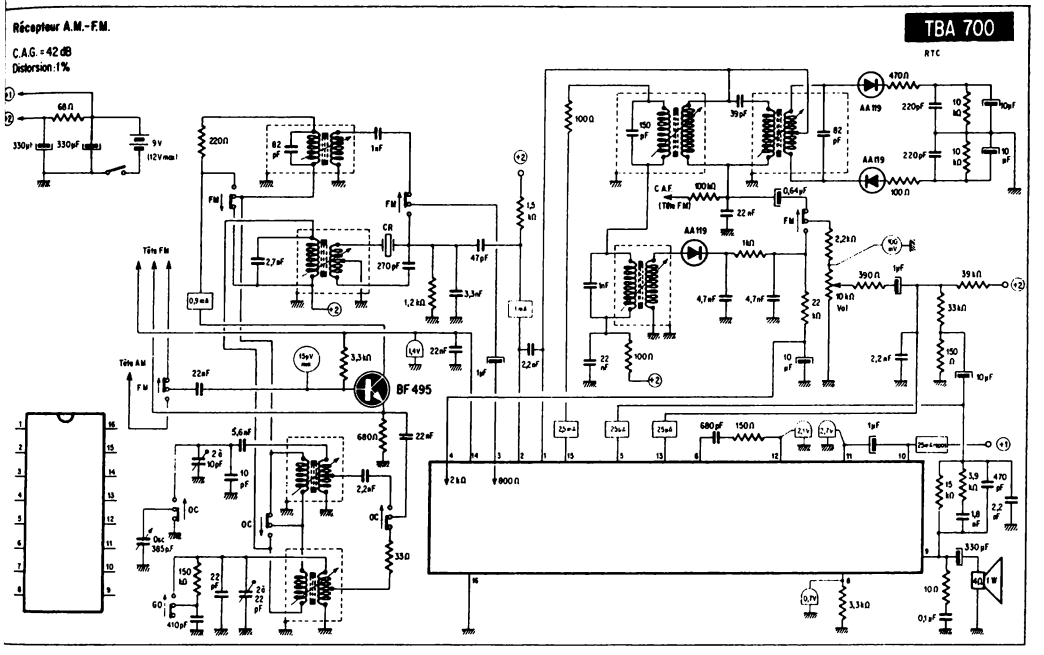
Régénérateur sous-porteuse PAL (TBA 540)

Amplif. chrominance Secam-PAL (TCA 640)

TBA 540-TCA 640

RTC_Telefunken_Fairchild




Récepteur A.M.-F.M.
C.A.G. = 42 dB
Distorsion : 1%
TBA 700
RTC
BF 495
Tête FM
Tête AM
FM
CR
C.A.F.
Vol
9 V
(12 V max.)
AA 119

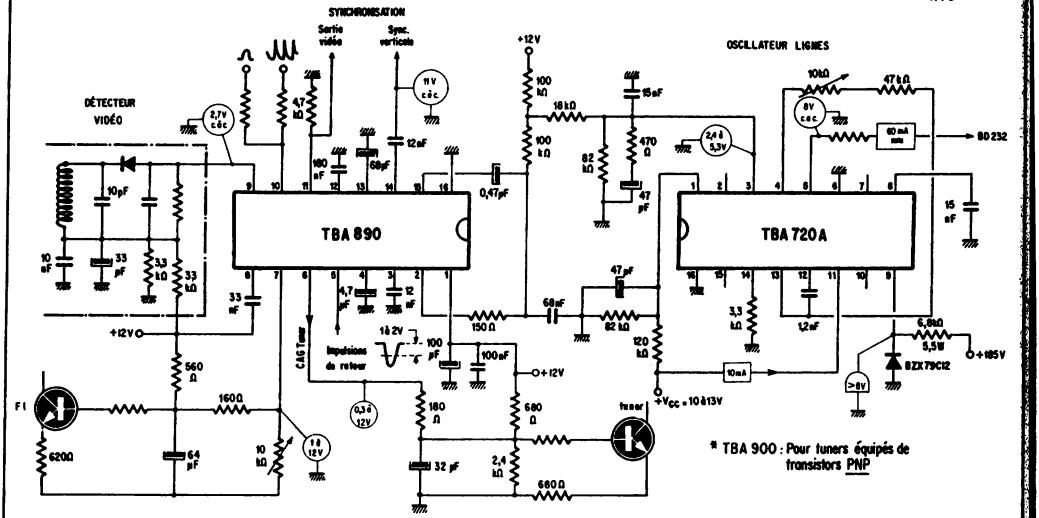
TBA 720 A : Rapport cyclique 20 à 60 %
Montée: 200 ns

TBA 890 : Gain vidéo = 7 dB
Modulation négative

TBA 720 A-TBA890 TBA900 *

Oscillateur lignes

Traitement vidéo RTC



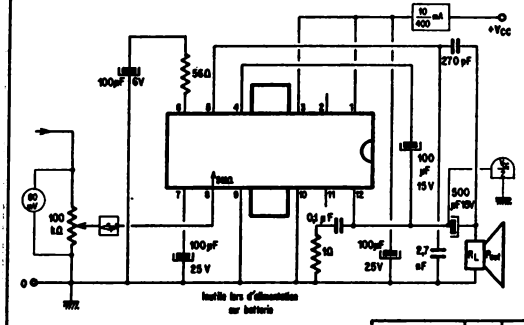
* TBA 900 : Pour tuners équipés de transistors PNP

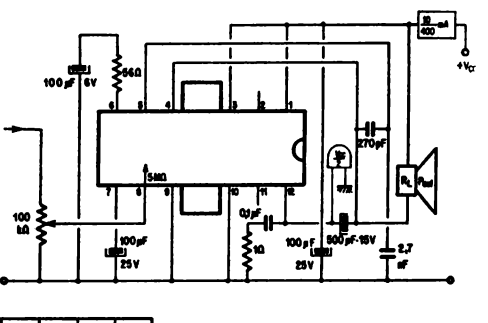
B.F. Puissance 1,3 à 5W

GV = 42 dB
Bande 40Hz....20 kHz
Bruit : 5 µV

TBA 800 C

ITT. Telefunken. SGS-Ates
Feintekt. Dresden





V_{CC} (V)	9	12	15	18	18	24
R_L (Ω)	8	8	8	8	16	16
P_{out} (W)	1,3	2	3,5	5	3	5*

* Distorsion 0,5 % jusqu'à 3 W

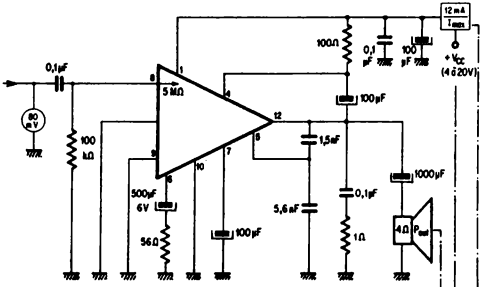
B.F. Puissance 1 à 7 W

Bande : 40 Hz à 10 kHz
Distorsion : 0,3 % ($P_{out} \leq 3W$, $V_{CC} = 14,4V$)
Bruit à l'entrée : 2 µV

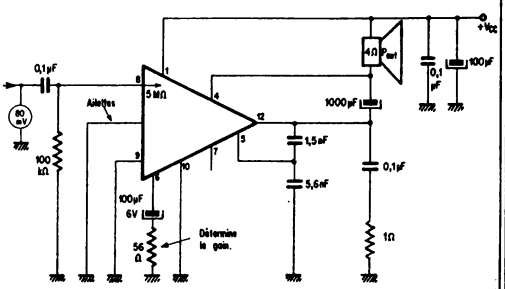
Radiateur 30 °C/W

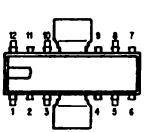
TBA 810 S
TBA 810 AS

Telefunken_SGS-Ates
Fairchild_Seescosem

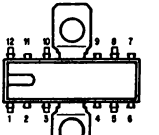


P_{out} (W)	7	6	2,5	1
V_{CC} (V)	16	14,4	9	6
I_{max} (A)	0,65	0,65	0,5	0,5





TBA 810 S

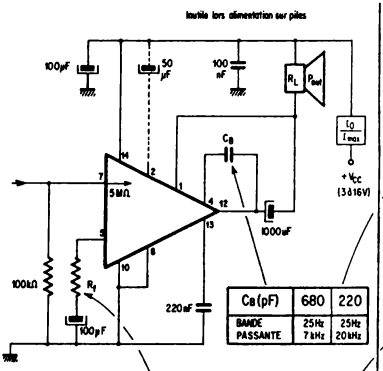


TBA 810 AS

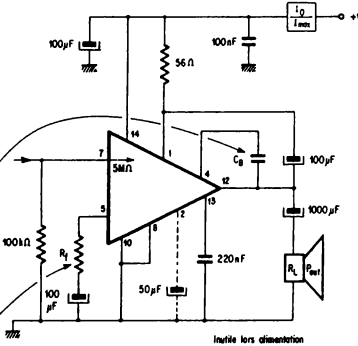
B.F. Puissance 0,2 à 2 W

TBA 820

SGS - Ates - Sescosem

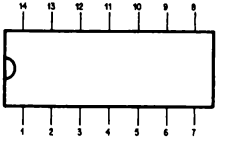


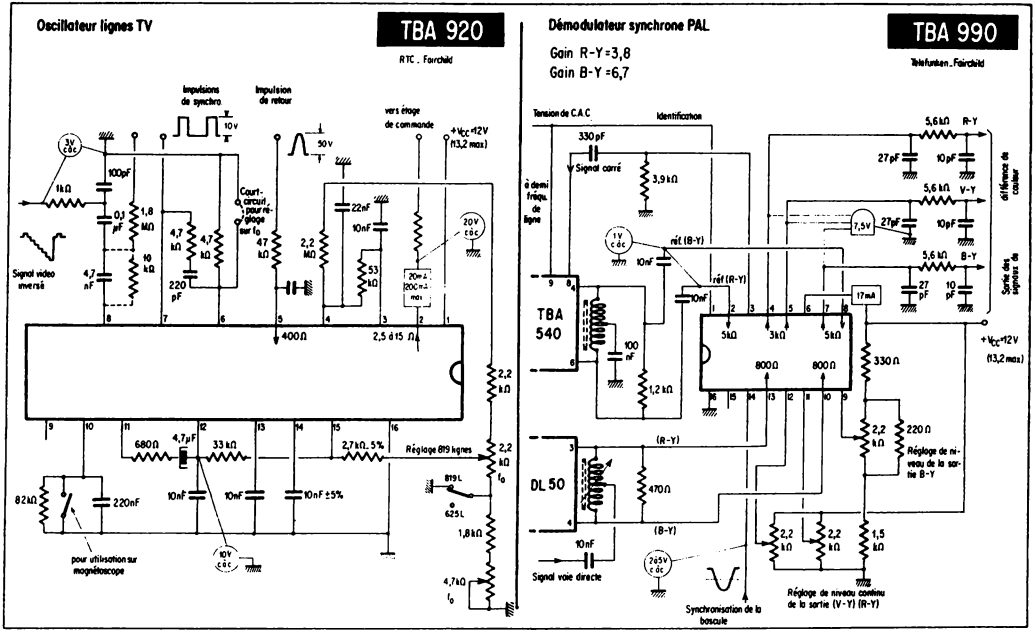
C_B(pF)	680	220
BANDE PASSANTE	25Hz 7kHz	25Hz 20kHz



V_{CC} (V)	R_L (Ω)	P_{out} (W)	I_Q (mA)	I_{max} (mA)
3,5	4	0,22	2,5	80
6	4	0,75	3,5	130
9	8	1,2	4	200
9	4	1,6	4	270
12	8	2	4,5	250

Valeur de R_f (Ω)	33	120
GAIN EN TENSION (dB)	45	34
DISTORSION A 0,5W (V_{CC}=9V)	0,8 %	0,4 %



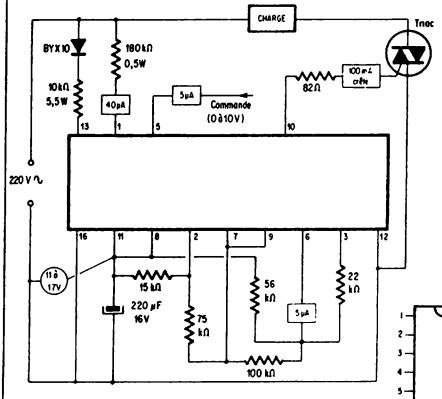

Oscillateur lignes TV
TBA 920
RTC . Fairchild
Impulsions de synchro
Impulsion de retour
vers étage de commande
+Vcc=12V (13,2 max)
Court-circuit pour réglage sur fo
Signal vidéo inversé
400Ω
2,5 à 15 Ω
Réglage 819 lignes
pour utilisation sur magnétoscope
Démodulateur synchrone PAL
TBA 990
Gain R-Y=3,8
Gain B-Y =6,7
Tension de C.A.C
Identification
Signal carré
à demi fréqu. de ligne
réf (B-Y)
réf (R-Y)
TBA 540
DL 50
Signal voie directe
Synchronisation de la bascule
Réglage de niveau continu de la sortie (V-Y) (R-Y)
Réglage de niveau de la sortie B-Y
différence de couleur
Sortie des signaux de

Commande Triac

TCA 280 A

RTC

Commutateur marche-arrêt
(passage au zéro)

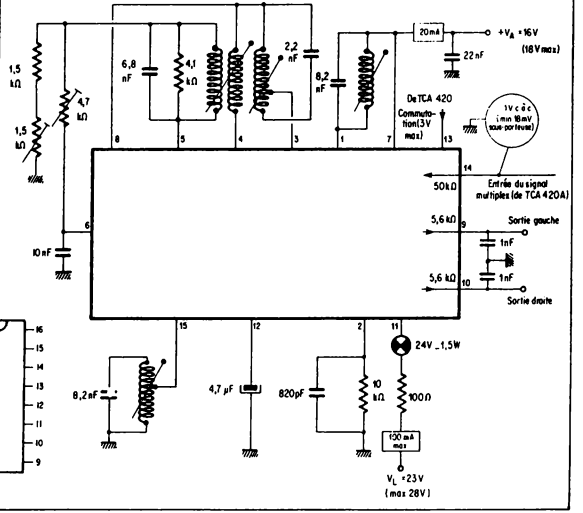


Décodeur Stéréo multiplex

TCA 290 A

RTC

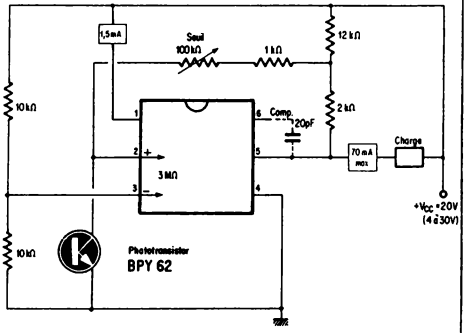
Distorsion : 0,2 %
Séparation canaux : 40 dB



Amplif. opérationnel

TCA 331 A

Siemens

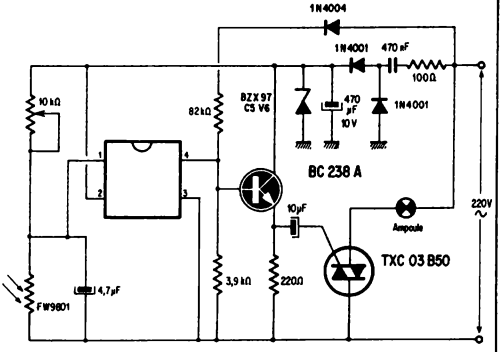


TRIGGER COMMANDÉ PAR PHOTOTRANSISTOR

Commutateur de seuil

TCA 345 A

Siemens



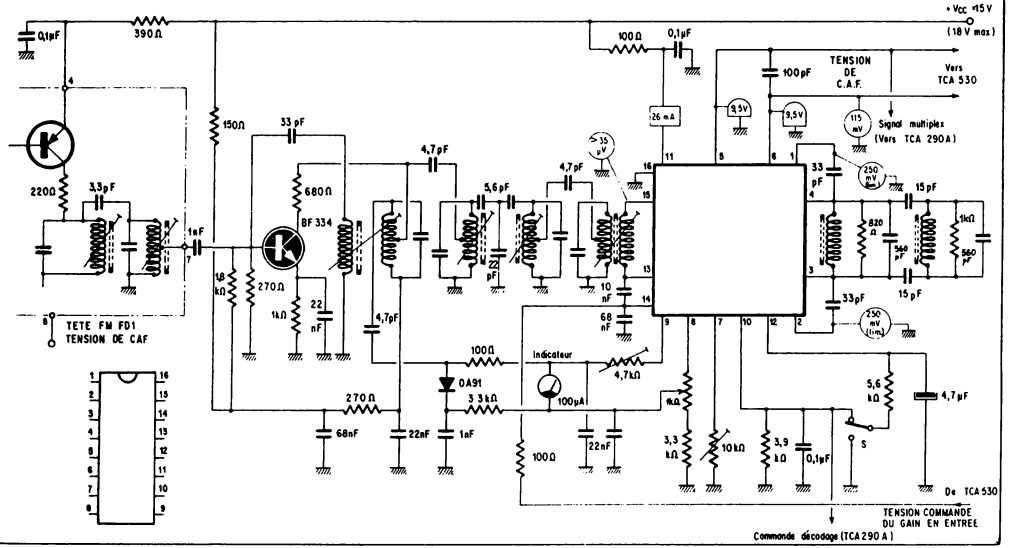
COMMANDE DE TRIAC PAR PHOTORÉSISTANCE

Amplif. - Démodulateur F I - FM

Réjection AM: 50 dB - Gain FI: 65 dB
Distorsion: 0,8 dB

TCA 420 A

RTC

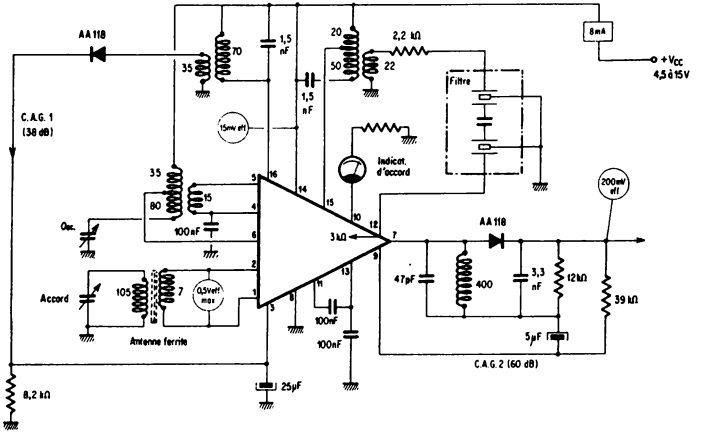


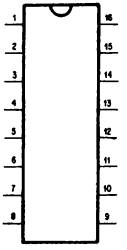
Radioréception A.M.

C.A.G. 38 + 60 dB
< 50 MHz

TCA 440

Siemens - RTC - Signetics



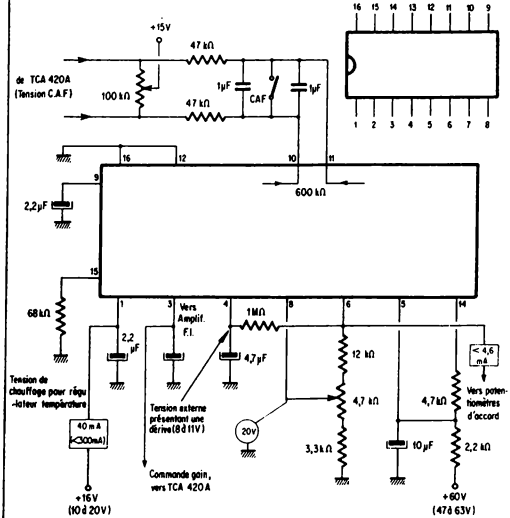


Alimentation ajustable

TCA 530

RTC

30V, pour varicap
Bruit en sortie ≤ 50 µV

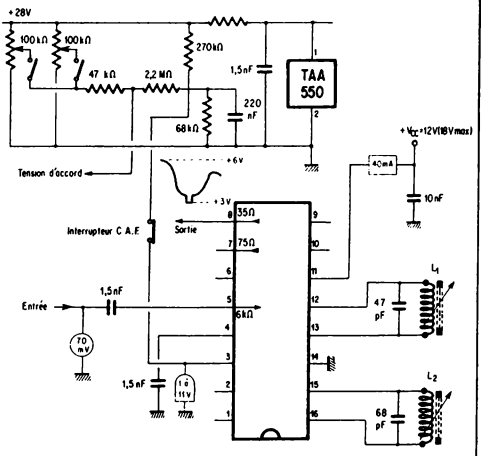


Démodulateur synchrone TV

TCA 540

RTC

C.A.F - Bande : 5 MHz
Intermodulation < 52 dB

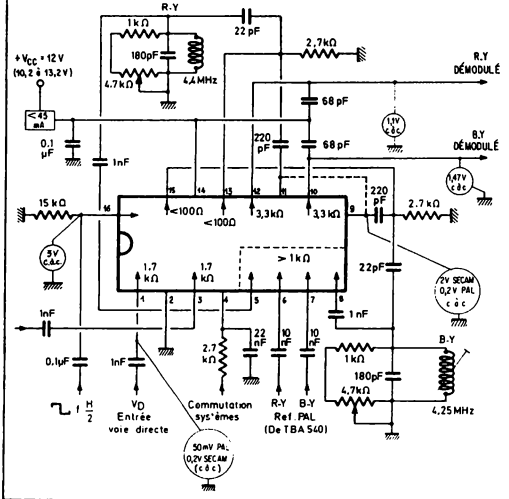


Démodulateur couleurs

SECAM / PAL

TCA 650

RTC



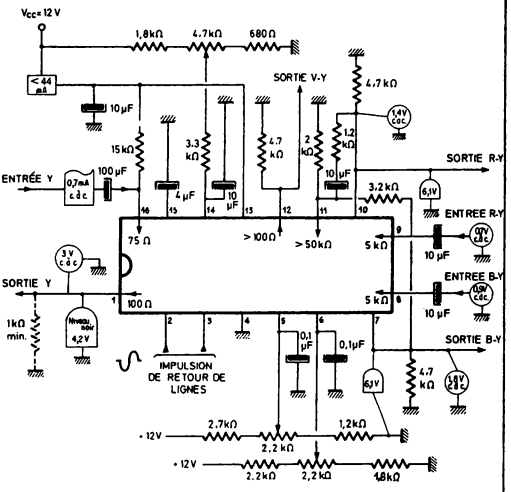
Commande luminance-chrominance

SECAM / PAL

Bande 6 MHz

TCA 660

RTC

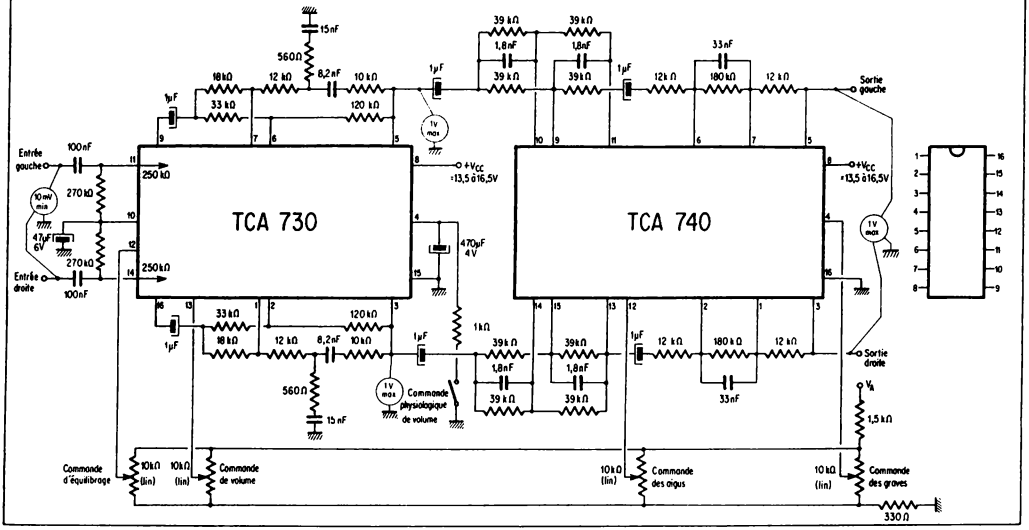


Commande volume (90 dB) TCA 730

Commande tonalité
(±15 dB à 40 Hz et à 15 kHz) TCA 740
Distorsion: 0,1%

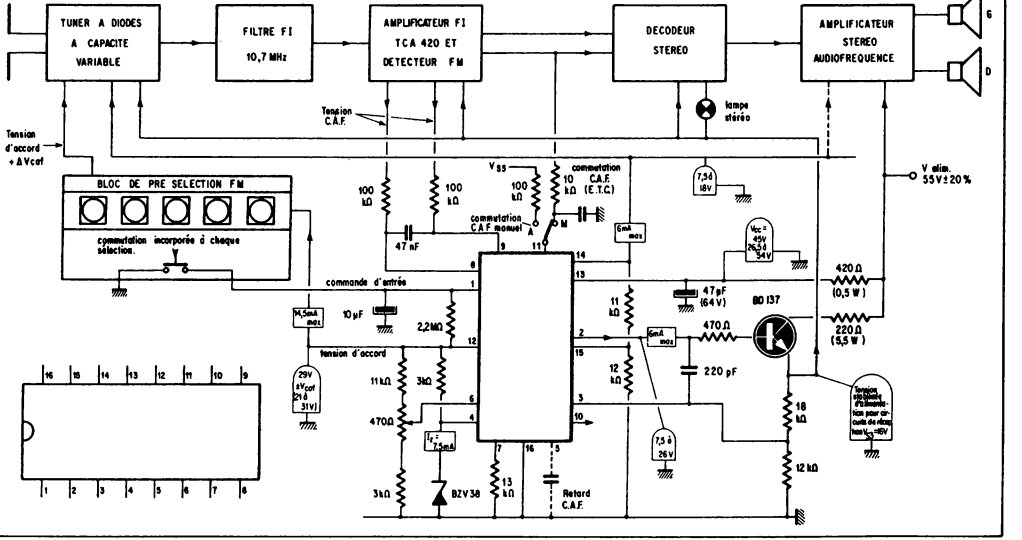
TCA 730-TCA 740

RTC



Multistabilisateur
pour accord électronique (broche 12)
pour alimentation des circuits du récepteur (broche 2) - V_{S3} = 16V
pour alimentation auxiliaire (broche 14) - V_{S2} = 7,5 à 18V

TCA 750
RTC

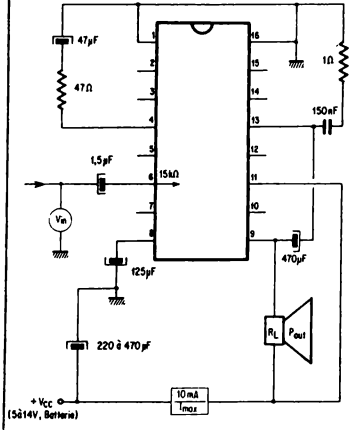


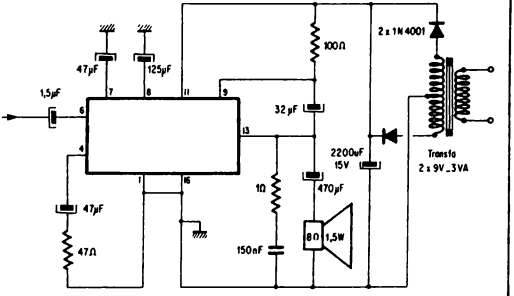
B.F Puissance 0,5 à 2 W

Gain en tension : 50 dB
Bruit à l'entrée : < 3 µV

TCA 760 B

RTC





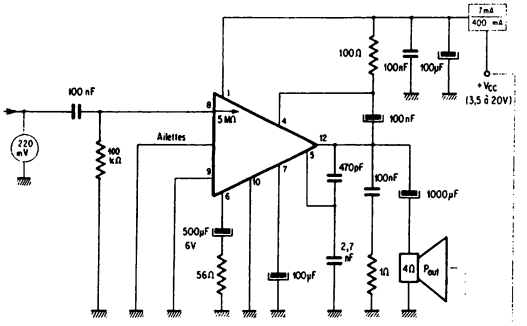
V_{CC} (V)	6	6	7,5	7,5	9	9	10	12
R_L (Ω)	4	8	4	8	4	8	8	8
P_{out} (W)	0,62	0,46	1	0,78	1,4	1,1	1,45	2
I_{max} (mA)	185	125	225	165	300	190	215	250
V_{in} (mV)	4,8	7	8	9	10	10	11	12

B.F. Puissance 2 à 3,2W

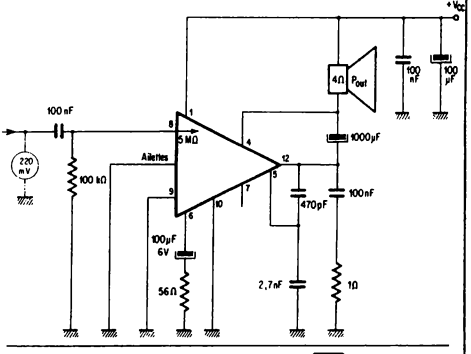
Gain: 37 dB

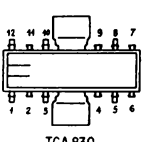
TCA 830
TCA 830 A

Seescosem_Telefunken

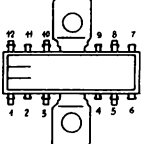


P_{out} (W)	3,2	2
V_{cc} (V)	12	9





TCA 830



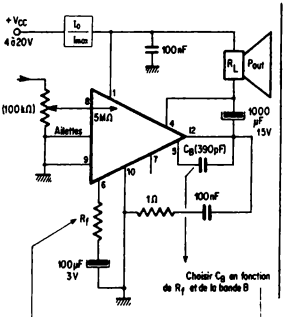
TCA 830 A

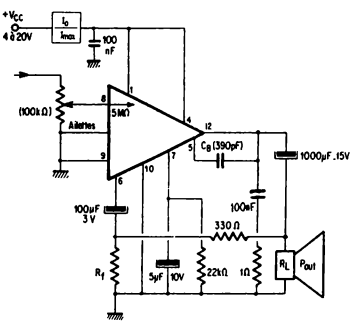
B.F. Puissance 0,8 à 4,2 W

Distorsion : 0,3 % entre 50 mW et 2 W
pour V_{CC} = 12 V, R_L = 4 Ω, f = 1 kHz

TCA 830 S

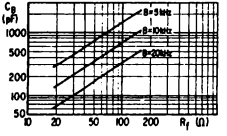
SGS - Ates - Sescosem



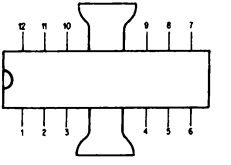


V_{CC} (V)	R_L (Ω)	P_{out} (W)	I_o (mA)	I_{max} (mA)
6	4	0,8	6,5	220
9	4	2	8,5	330
12	8	2,3	10	300
12	4	3,4	10	430
14	4	4,2	11	450

Valeur de R_f	Gain en tension
22 Ω	100
100 Ω	40
200 Ω	20



RADIATEUR :
Surface cuivrée de 25 cm²

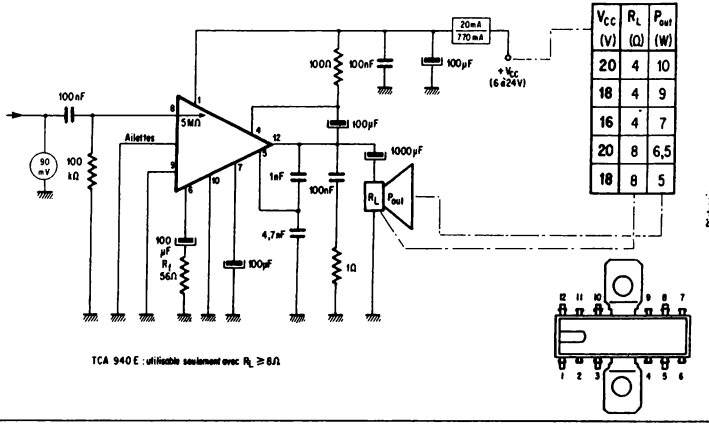


B.F. Puissance 5 à 10W

TCA 940

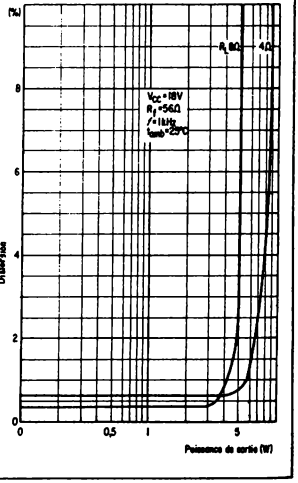
Dissipation 8W à 70°C au boitier
Bande : 40 Hz à 20 kHz
Distorsion : 0,3 % ($P_{out} \leq 5W$, $V_{CC} = 18V$, $R_L = 4\Omega$)

Telefunken - SGS - Ates
Seescosem



V_{CC} (V)	R_L (Ω)	P_{out} (W)
20	4	10
18	4	9
16	4	7
20	8	6,5
18	8	5

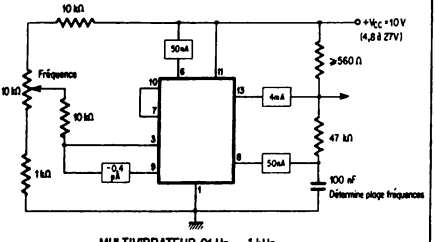
TCA 940 E : utilisable seulement avec $R_L \geq 8\Omega$



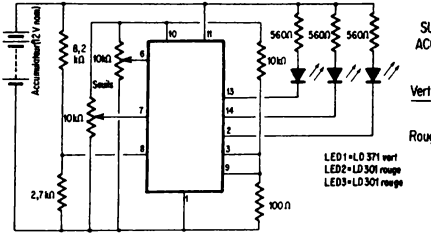
Comparateur double seuil

TCA 965

Siemens



MULTIVIBRATEUR 91 Hz ..... 1 kHz

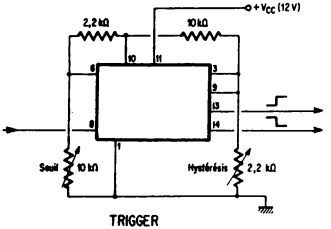


SURVEILLANCE ACCUMULATEUR

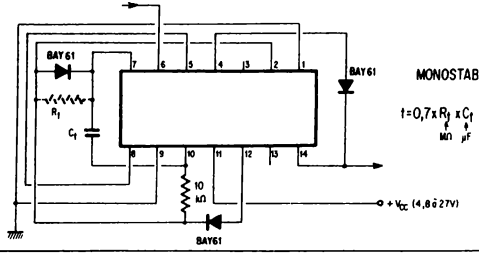
Vert: 11,5 à 14,5 V. charge normale

Rouge: < 11,5 décharge

> 14,5 surcharge



TRIGGER



MONOSTABLE

$t = 0{,}7 \times R_1 \times C_1$

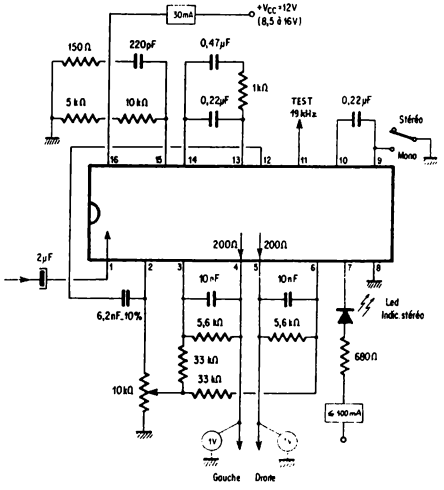
(t : µs, R_1 : MΩ, C_1 : µF)

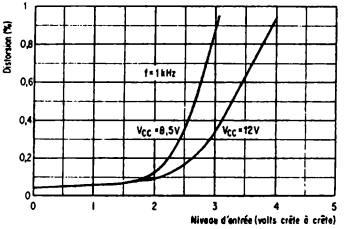
Décodeur stéréo FM

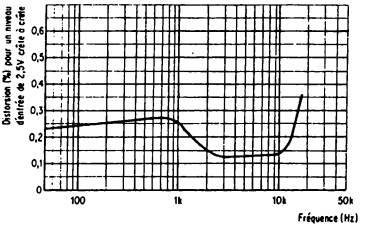
TCA 4500

Motorola

Distorsion : 0,1 %
Rapport signal / bruit : 80 dB





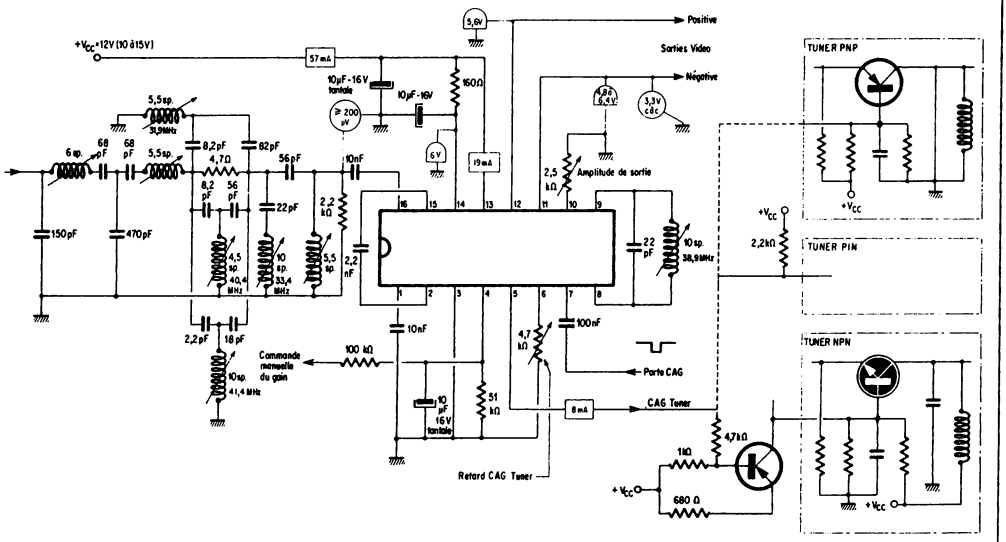


Amplif. F.I. - Démodulateur

Video - TV - C.A.G = 55 dB - Bande : 10 MHz

TDA 440

SGS - Ates



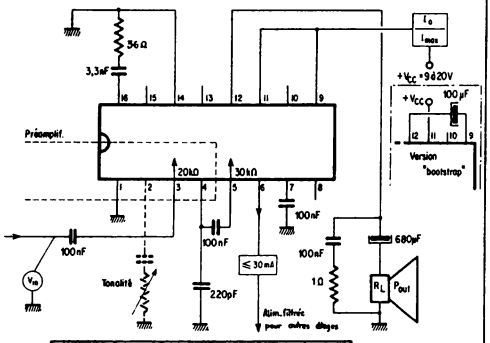
Préamplif + Amplif. B.F. Puissance 5 à 11 W

Distorsion < 0,2 % à ≤ 2 W

Bruit à la sortie : < 0,5 mV

TDA 1004 A

RTC



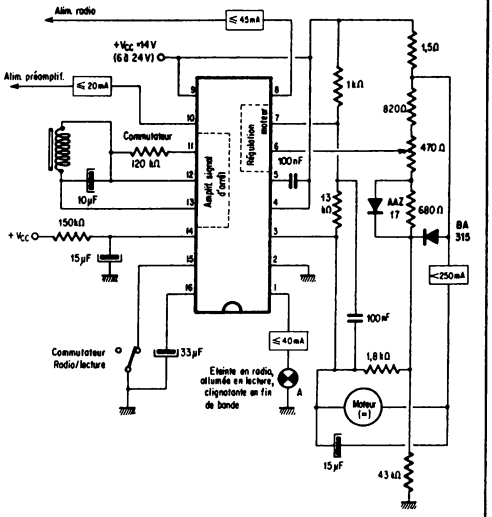
V_{CC} (V)	14	14	14	20	20
R_L (Ω)	2	4	8	4	8
P_{out} (W)	7,5	5	3	11	6
P_{out} (W) *	9 **	6	3,5	12	7
I_o (mA)	30	30	30	40	40
I_{max} (A)	1	0,6	0,35	0,85	0,5
V_{in} (mV)	4,8	6,6	9,1	6,6	9,1

* Version "bootstrap" ** Avec 220 Ω entre 9 et 11

Commande radiocassette

TDA 1006

RTC

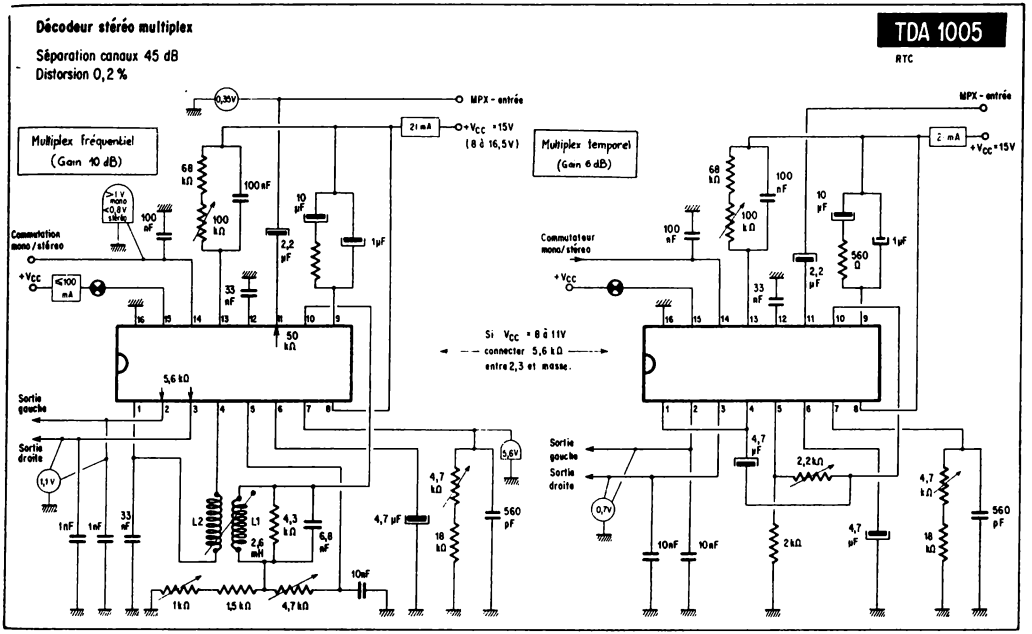


Décodeur stéréo multiplex

Séparation canaux 45 dB
Distorsion 0,2 %

TDA 1005

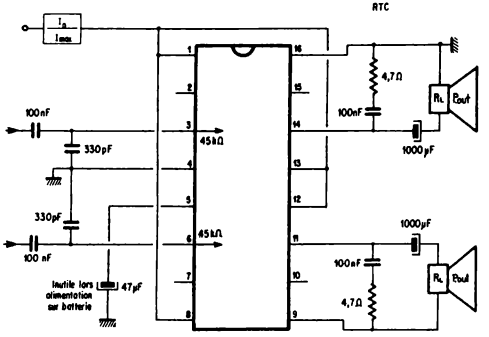
RTC



B.F. Puissance stéréo 2 x 0,8 à 5,7 W

TDA 1009

RTC



Version "bootstrap" : Supprimer les connexions entre 1, 8, et + V_{CC}. Connecter 100µF entre 1 et 14 (+ sur 14) et entre 8 et 11 (+ sur 11).

* Version "bootstrap"

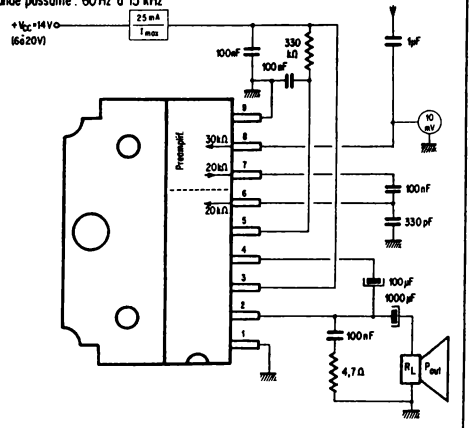
V_{CC} (V)	9	9	12	12	14	14	16	16	20
R_L (Ω)	4	8	4	8	4	8	4	8	8
P_{out} (W)	1,5	0,8	3,1	1,7	4,4	2,5	6	3,4	5,7
P_{out} (W)*	2	1,2	4	2,2	5,5	3,1	7,1	4,1	6,6
I_o (mA) total	35	35	43	43	47	47	52	52	61
I_{max} (mA) total	450	350	900	500	1000	600	1250	700	850
V_{in} (mV)	23	32	23	32	23	32	23	32	32
Dist. à 2,5 W (%)			3		0,65	10	0,4	0,35	0,15

B.F. Puissance 3 à 6 W

TDA 1010

Distorsion : 0,3 % pour ≤ 3 W _ Bruit à la sortie : < 1 mV
Gain préamplificateur : 24 dB _ Gain amplificateur : 30 dB
Bande passante : 60 Hz à 15 kHz

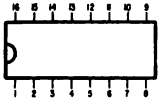
RTC



R_L (Ω)	P_{out} (W)	I_{max} (A)
2	6	2
4	6	1,4
8	3,3	0,8

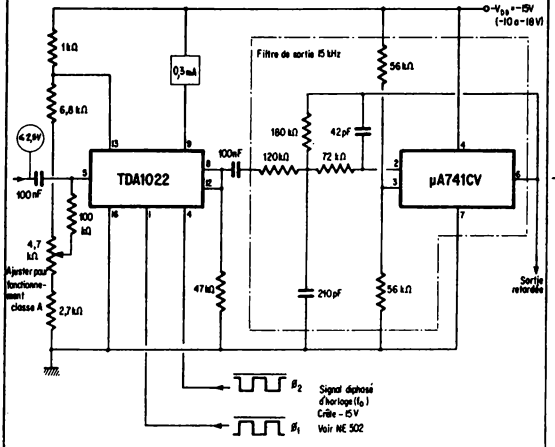
Ligne à retard analogique BBD

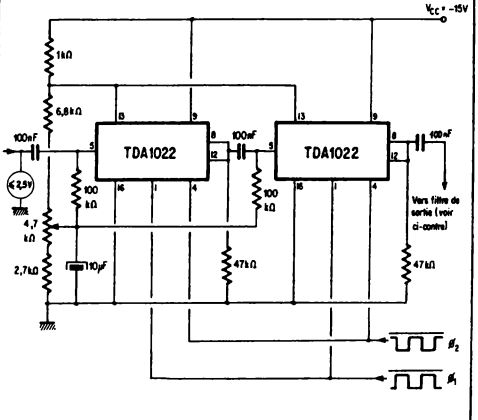
Retard : $512/2\,f_0$ (0,51 à 51 ms)
f_0 : 5 à 500 kHz. Signal : 0 à 45 kHz
$f_{signal} < 0{,}5\,f_0$
Atténuation : 3 dB



TDA 1022

RTC



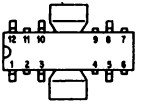


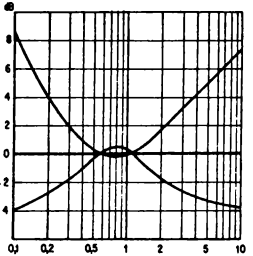
Voie son TV

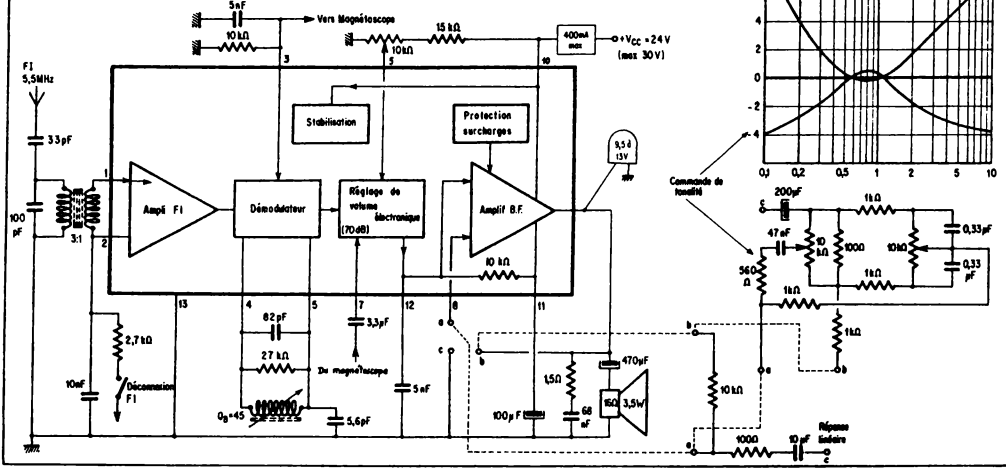
F.I. - Démodulation F.M. - Commande gain
Amplificateur puissance (GV = 40 dB max entre connexions 7 et 9)

TDA 1035

ITT





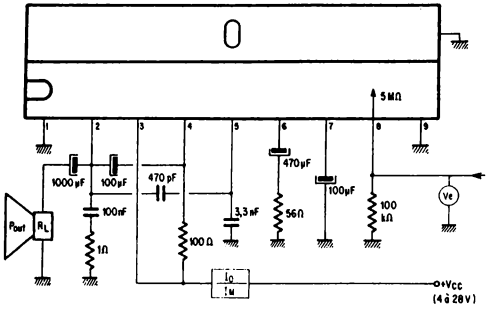


B.F. Puissance 5W

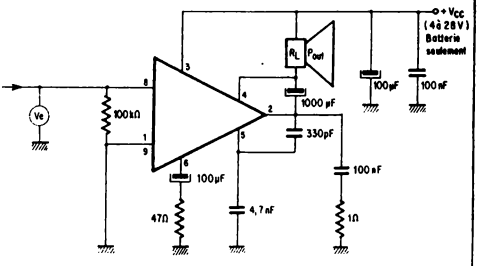
Gain 36dB_Distorsion>1% à 5W
35Hz à 20 kHz

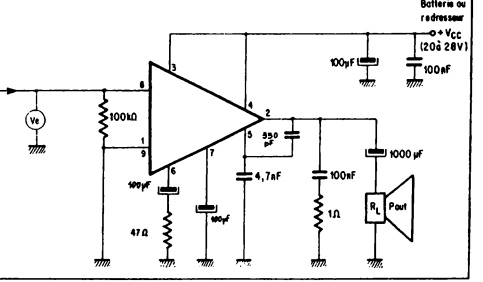
TDA 1037

Siemens



Po (W)	RL (Ω)	Io (mA)	Im (A)	Vcc (V)	Ve (mV)
5,5	16	15	0,35	24	150
5	8	13	0,45	18	110
5	4	12	0,55	14	80



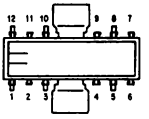


Déviation verticale TV (110°)

Durée retour 1 ms

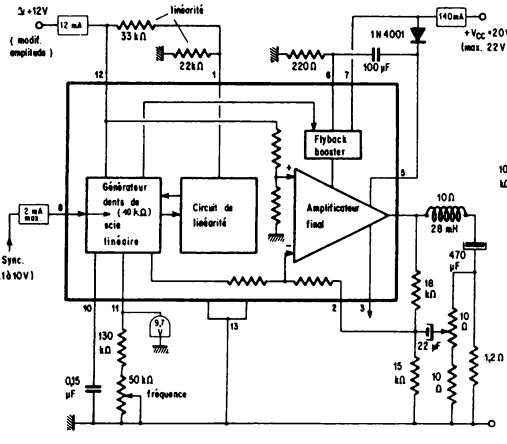
TDA 1044

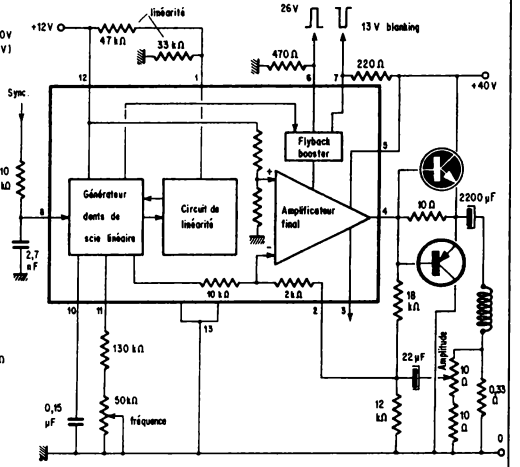
ITT



NOIR ET BLANC

COULEURS

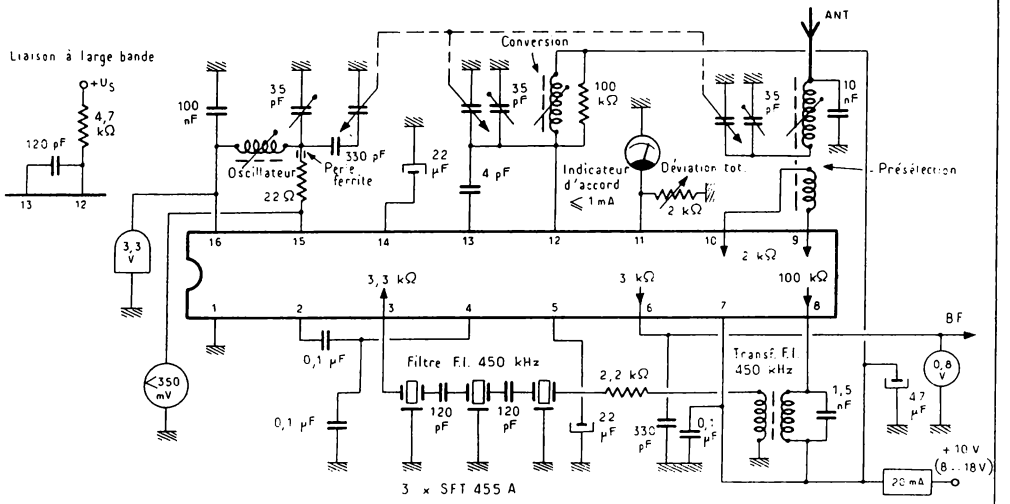




Réception AM < 30 MHz
Régulation 85 dB
Sensibilité : 14 µV

TDA 1046

Siemens

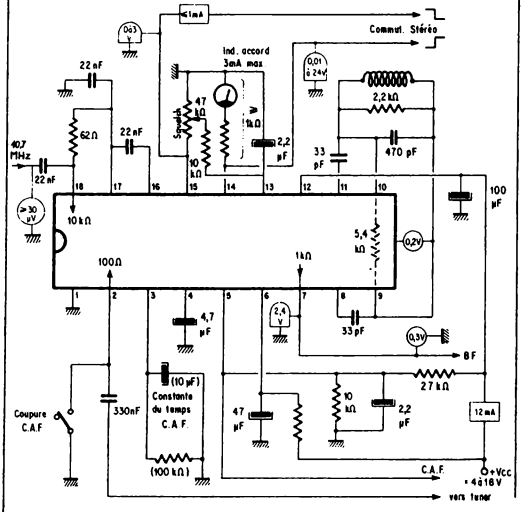


Amplif-démodulateur FM radio ≤ 15 MHz

Distorsion 0,4 %

TDA 1047

Siemens

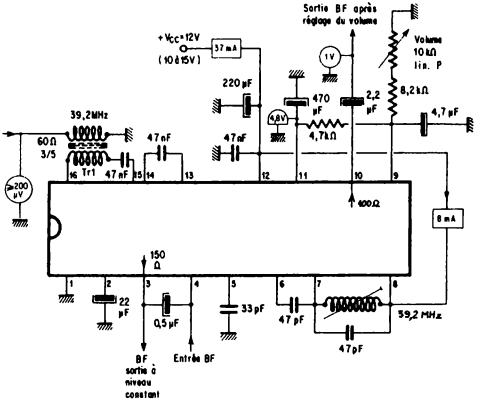


Amplif.-démodulateur Son TV-AM

Commande volume ≥ 70 dB

TDA 1048

Siemens - Saxosem

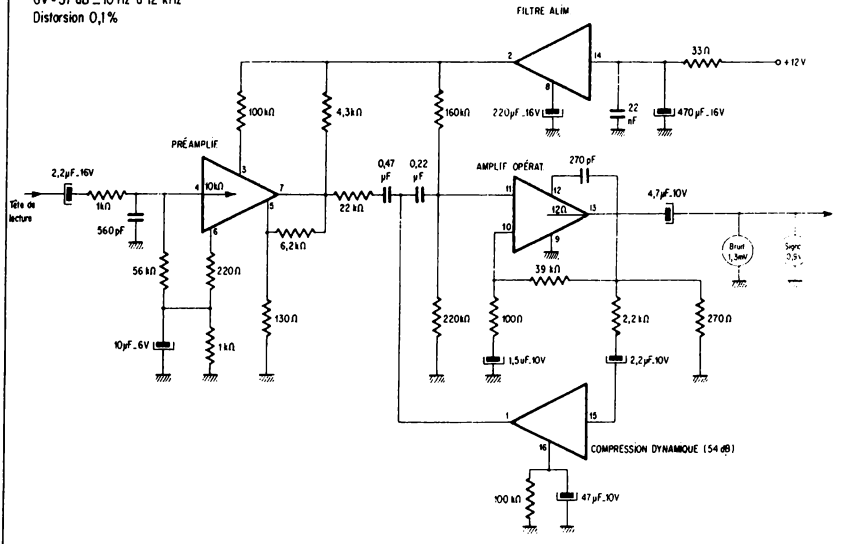


Préamplif. Enregistreur magnétique

Compression de dynamique
GV = 57 dB _ 10 Hz à 12 kHz
Distorsion 0,1 %

TDA 1054

SGS-Ates

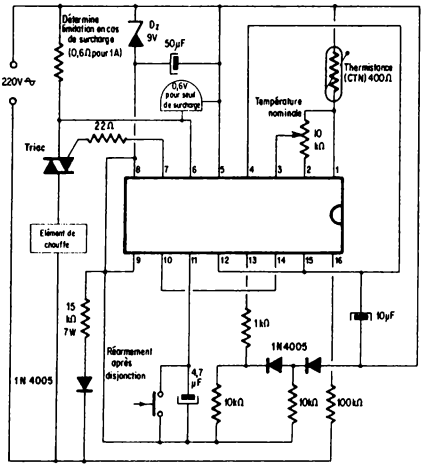


Commande triac

TDA 1067

Sescosem

Régulation proportionnelle de température
Commutation au passage par zéro

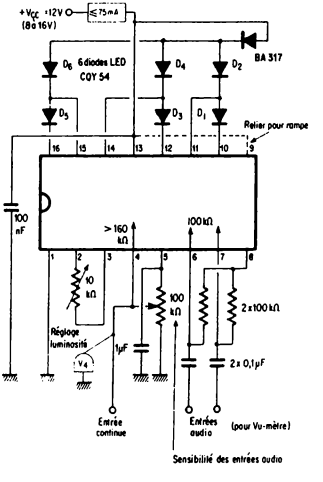


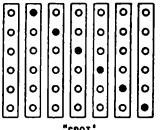
Commande de 6 LED

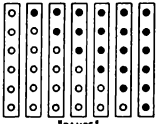
TDA 1069

RTC

Entrées continues et alternatives
Fonctionnement "Spot" ou "Rampe"







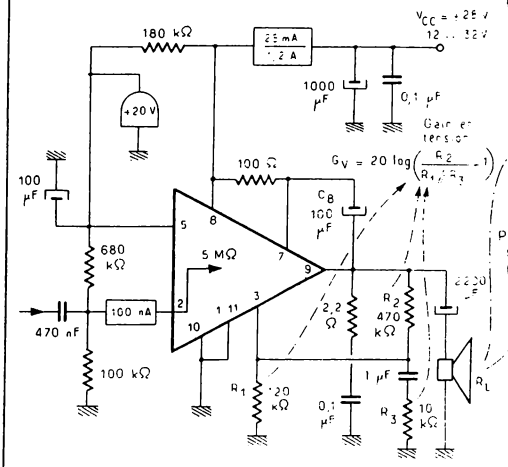
V_A (V)	Allumage
0,61	D_1
0,80	D_2
1,04	D_3
1,35	D_4
1,75	D_5
2,27	D_6

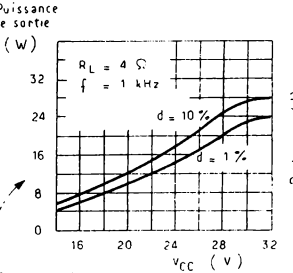
B.F. Puissance 4 à 28 W

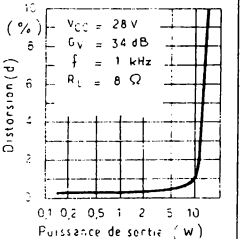
Bruit d'entrée 3 µV

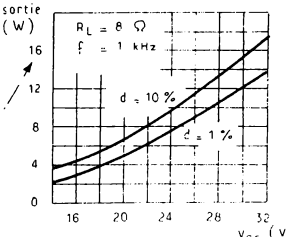
TDA 1102

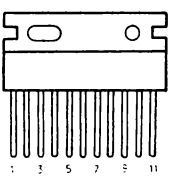
Sescosem







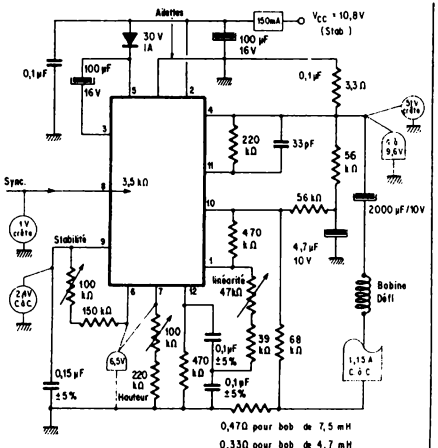




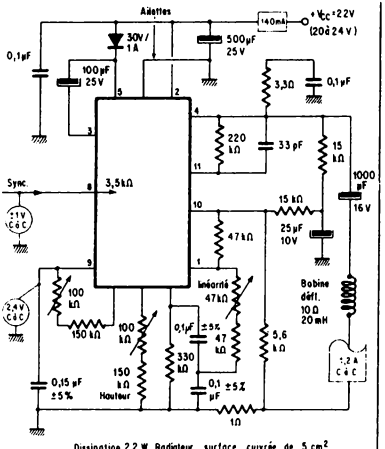
Déviation verticale TV

TDA 1170

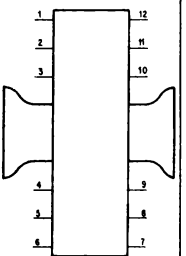
SGS-Ates



TÉLÉVISEUR PORTABLE



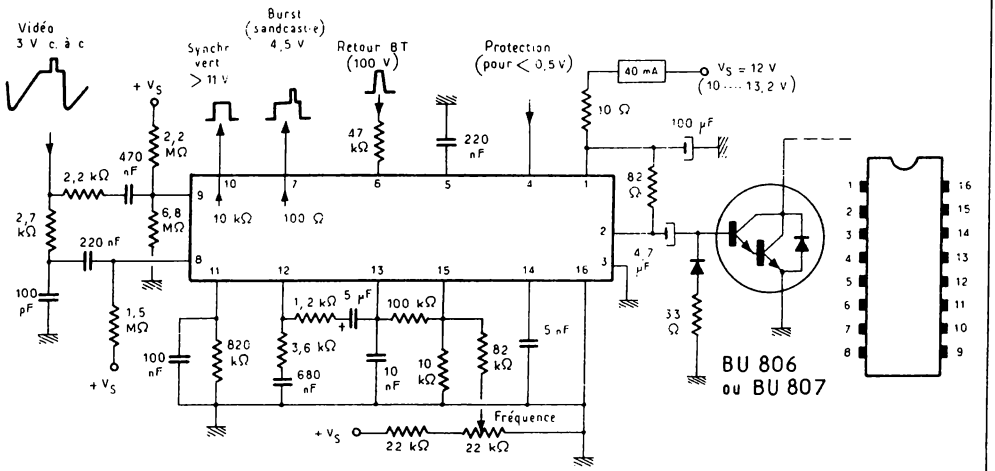
TÉLÉVISEUR DOMESTIQUE



Synchronisation TV

TDA1180 P

SGS

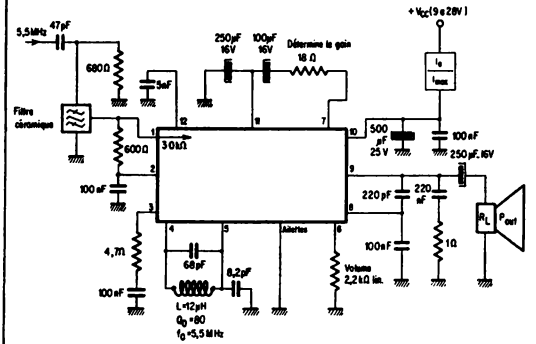


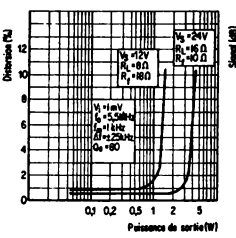
Voie son TV-F.M.

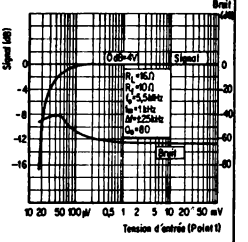
Réjection A.M.: 55 dB

TDA 1190

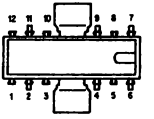
SGS-Ates







V_{CC} (V)	R_L (Ω)	P_{out} (W)	I_0 (mA)	I_{max} (mA)
12	8	1,5	19	220
24	16	4,2	22	280

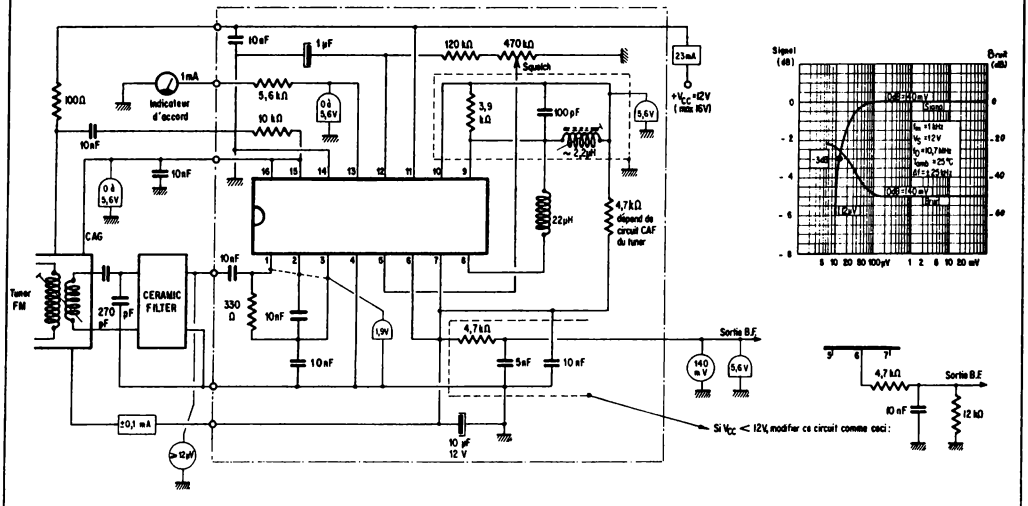


Amplif.-démodulateur F.I-FM

TDA 1200

SGS-Ates

Rejection A.M. : 40 dB - Rapport signal/bruit : 60 dB
(pour 1 mV à l'entrée)



Réception AM / FM

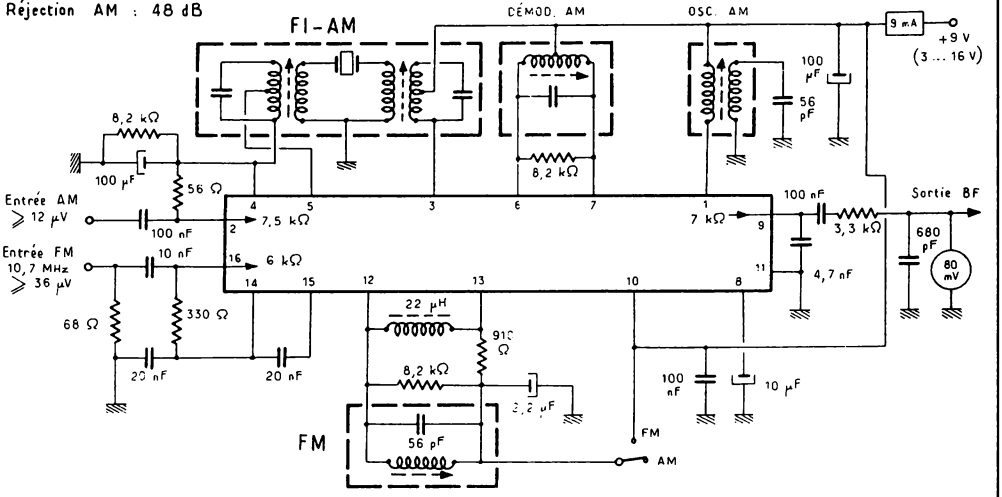
CAG = 80 dB

Distorsion 1 % (AM) 0,7 % (FM)

Réjection AM : 48 dB

TDA1220A

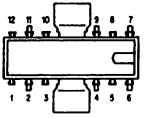
SGS

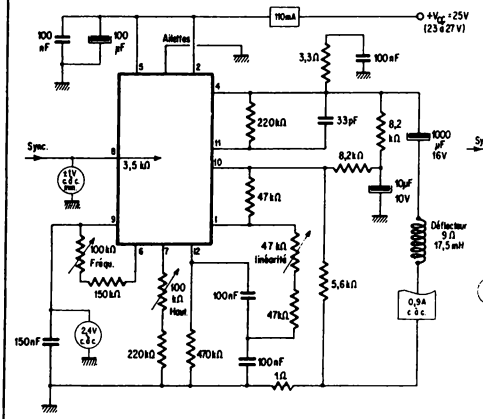


Balayage vertical TV

TDA 1270

SGS-Ates



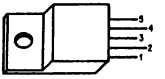


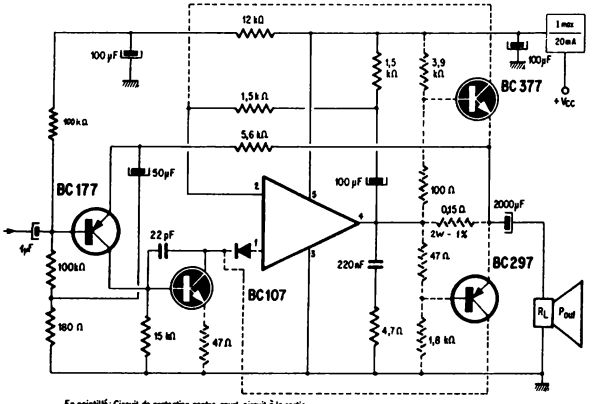
Darlingtons complémentaires B.F. Puissance 12 à 30W

Gain en tension : 30 dB
Bande : 20 Hz à 10 kHz

TDA 1410
TDA 1420

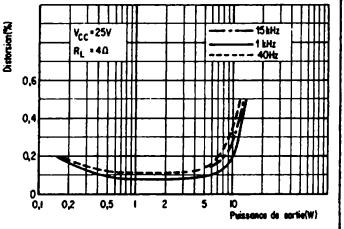
SGS-Ates





En pointillé : Circuit de protection contre court-circuit à la sortie

	TDA 1410		TDA 1420	
V_{CC} (V)	27	25	36	34
R_L (Ω)	8	4	8	4
P_{out} (W)	12	16	20	30
I_{max} (A)	0,58	0,96	0,72	1,3

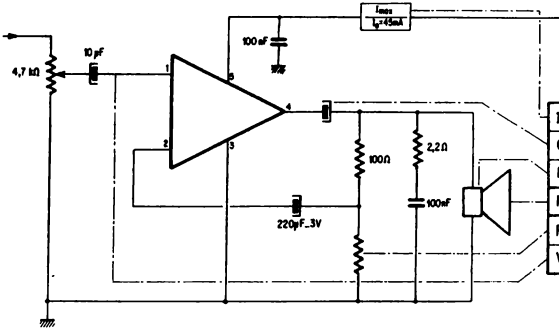


B.F. Puissance 6,5 à 10W

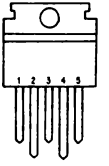
G.V. 80 dB
40 Hz à 15 kHz

TDA 2002

SGS-Ates



I_{max} (A)	0,75	0,75	1,5	1,5
C (µF)	1000	1000	2200	2200
R_L (Ω)	4	4	2	2
P_{out} (W)	6,5	6,5	10	10
R (Ω)	2	1	2	1
V_{in} (mV eff.)	120	60	120	60



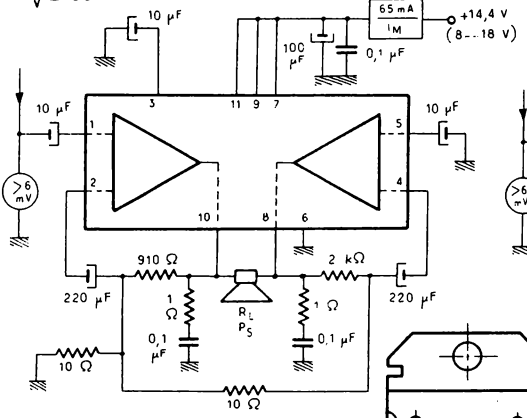
B.F. Puissance mono/stéréo, 6,5 à 22 W

Distorsion 0,3 % pour 2 × 6 W, R_L = 2 Ω

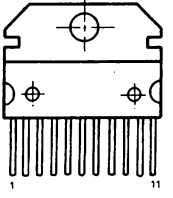
G_V = 50 dB

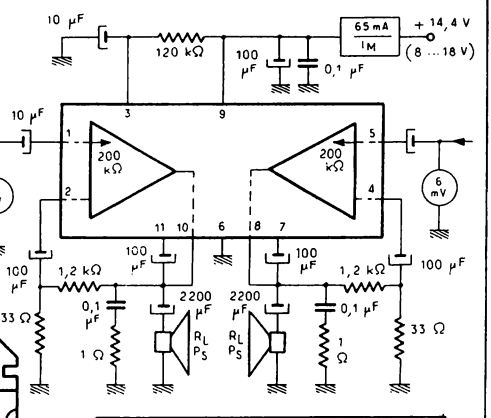
TDA 2004

SGS



R_L	4	3,2	Ω
P_S *	20	22	W
I_M	1	1,2	A





R_L	4	3,2	2	1,6	Ω
P_S *	6,5	8	10	11	W
I_M	0,6	0,8	1	1,2	A

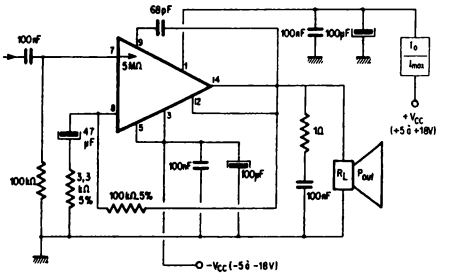
* Distorsion 10 %

B.F. Puissance 9 à 18 W

Gain en tension : 30 dB

TDA 2010
TDA 2020

SGS-Ates



	TDA 2010		TDA 2020	
± V_{CC} (V)	14	14	18	17
R_L (Ω)	8	4	8	4
P_{out} (W) *	9	12	16,5	18,5
I_o (mA)	45	45	60	60
I_{max} (A)	0,5	0,8	0,7	1

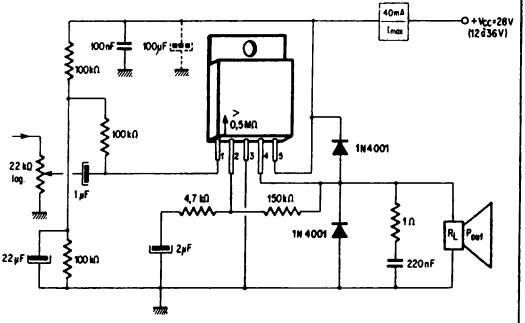
* Distorsion 1 %

B.F. Puissance 9 à 18 W

Gain en tension : 30 dB

TDA 2030

SGS-Ates



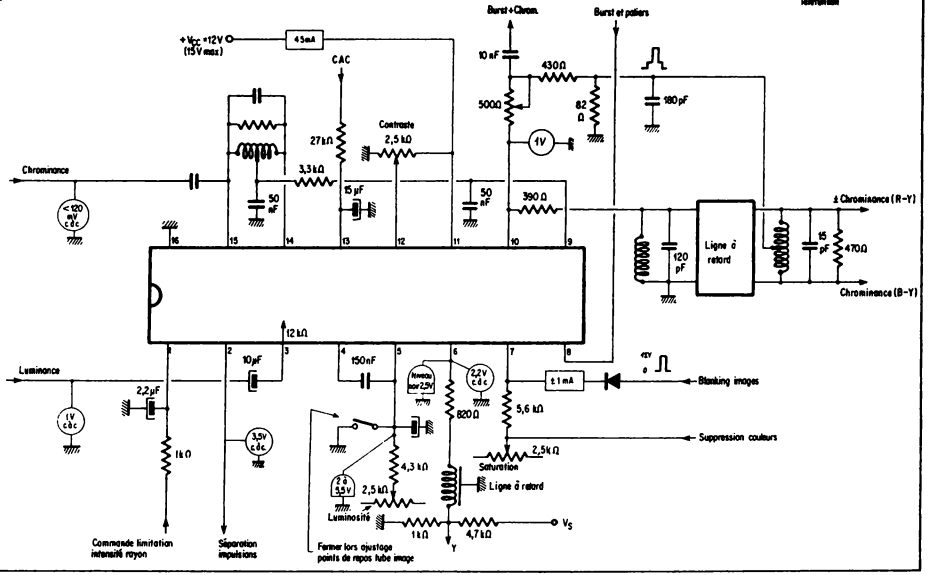
	Distorsion 10 % à 1 kHz		Distorsion 0,5 % de 40 Hz à 15 kHz	
R_L (Ω)	8	4	8	4
P_{out} (W)	11	18	9	14
I_{max} (A)	0,7	1,1	0,52	0,9

Amplif. Luminance-Chrominance

C.A.C.:26 dB

TDA 2150

Telefunken



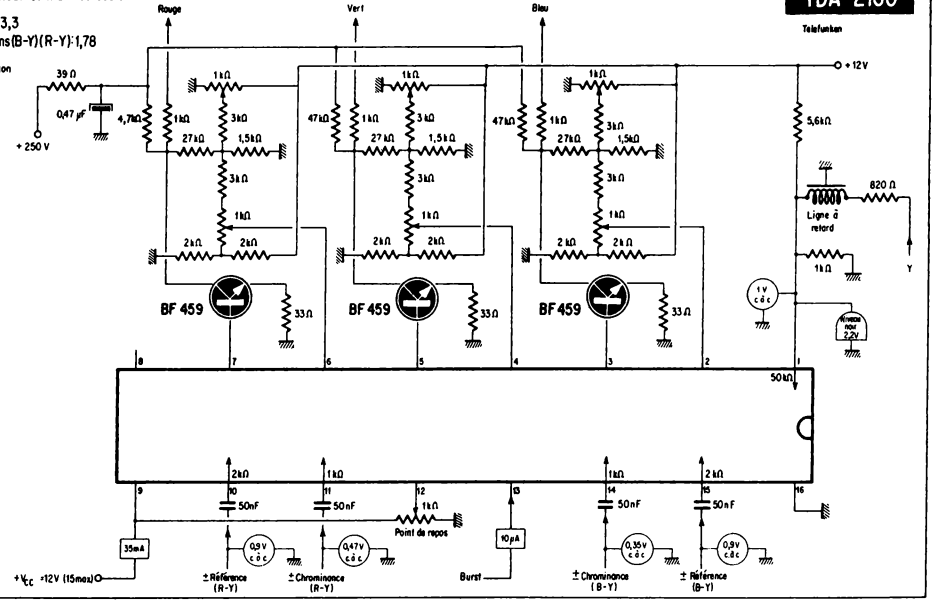
Démodulateur et matrice couleurs

Gain (R-Y): 3,3
Rapport gains (B-Y)/(R-Y): 1,78

Démodulation synchrone

TDA 2160

Telefunken



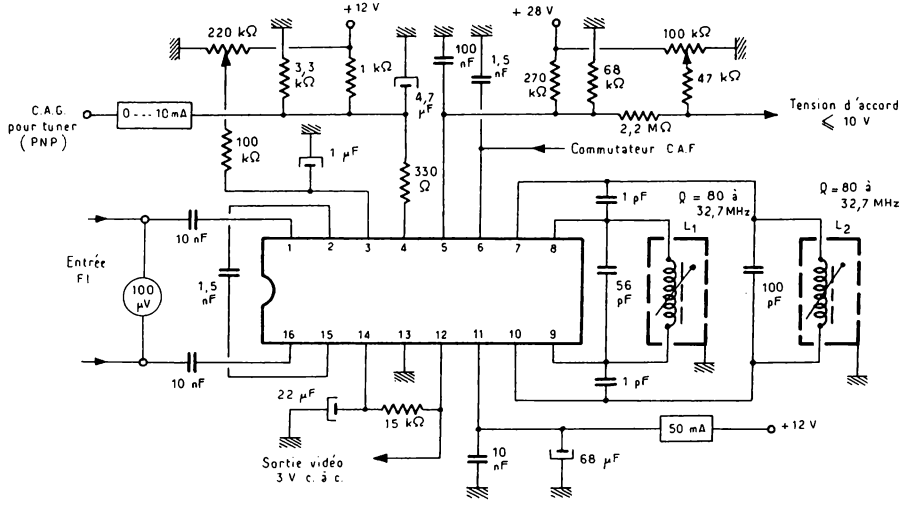
Amplif. - démodulateur F.I. - T.V.

CAG = 64 dB

Signal / bruit = 58 dB

TDA 2542

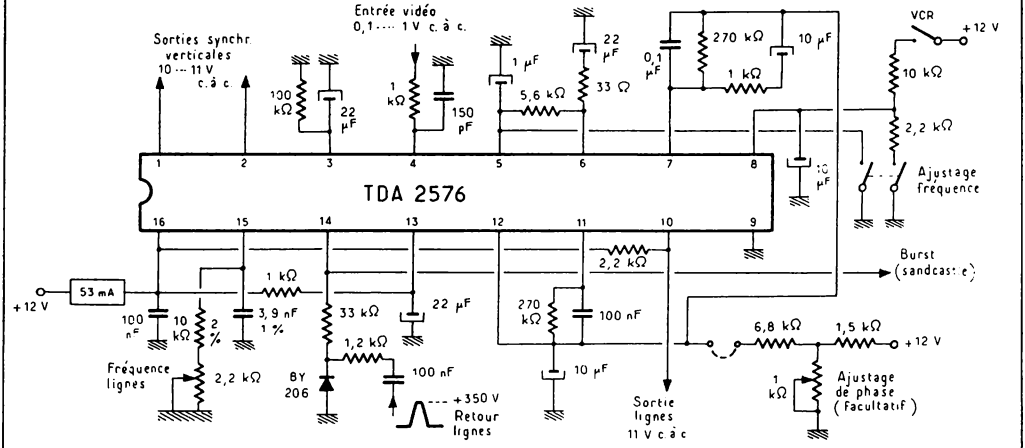
RTC



Oscillateur lignes TV
Avec diviseur vertical (1 : 625)
Plage maintien : ± 1 kHz
Plage capture : ± 0,9 kHz

TDA 2576

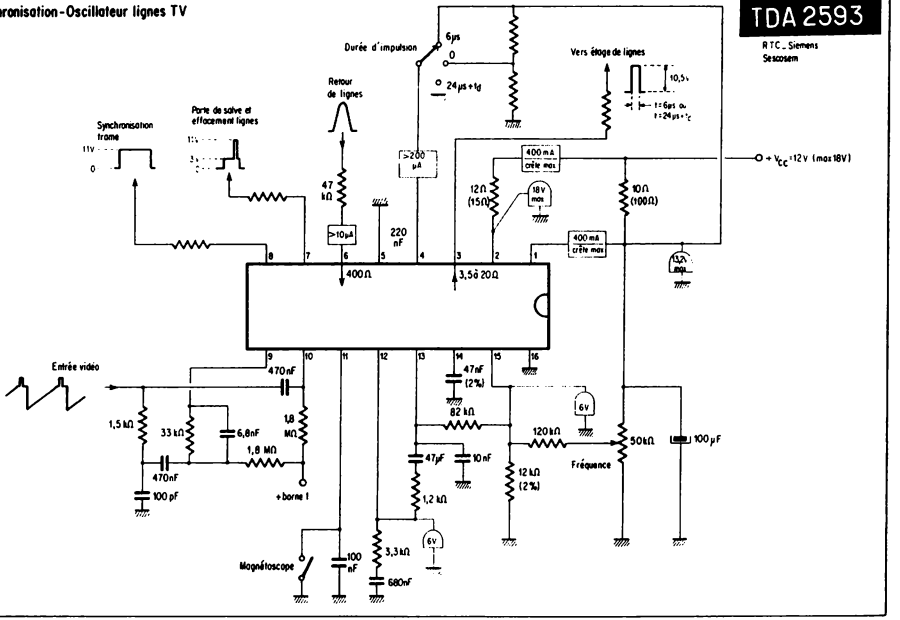
RTC



Séparateur - Synchronisation - Oscillateur lignes TV

TDA 2593

RTC - Siemens
Sescosem

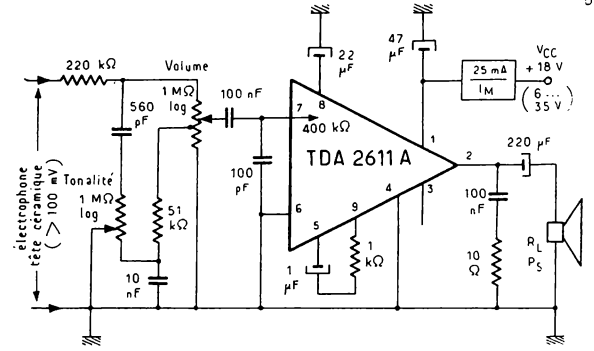


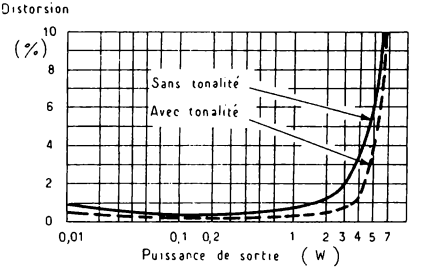
B.F. Puissance 5 W

Bruit en sortie < 0,5 mV

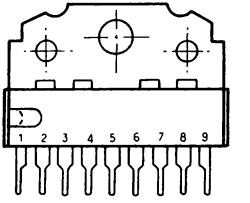
TDA 2611 A

RTC





R_L	8	8	8	8	15	Ω
V_{CC}	8,3	12	18	20	25	V
P_S	0,6	1,7	4	5	4,5	W
I_M	150	220	360	400	200	mA

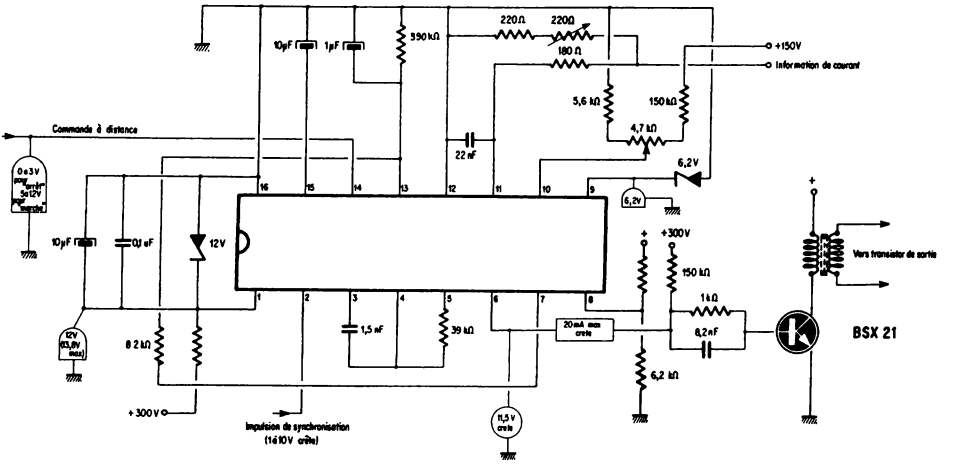


Commande alimentation à découpage

pour récepteur TV

TDA 2640

RTC



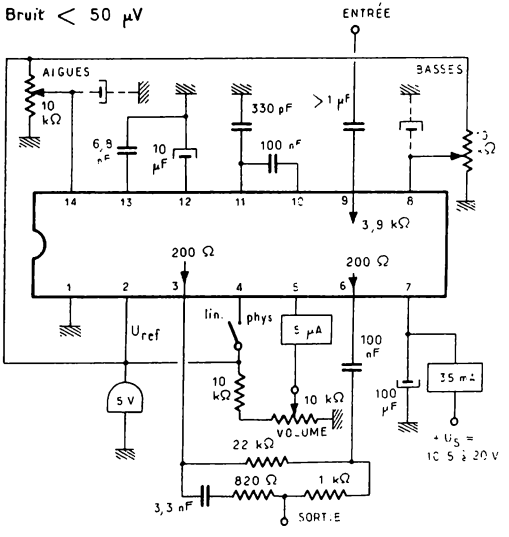
Commande Volume – Tonalité

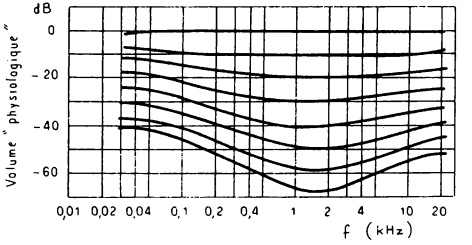
Gain ⩽ 80 dB Distorsion 0,2 %

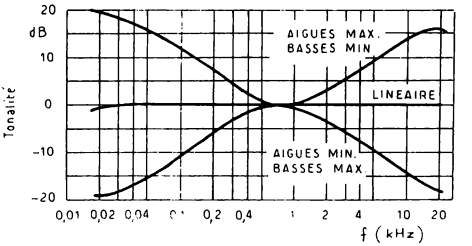
Bruit < 50 µV

TDA 4290

Siemens





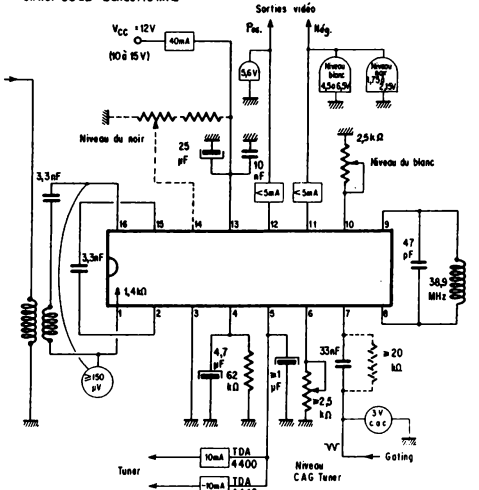


Amplif. F.I. et démodulateur TV

TDA 4400
TDA 4410

Telefunken

Tuners PNP : TDA 4400
Tuners NPN : TDA 4410
C.A.G. = 58 dB - Bande : 10 MHz

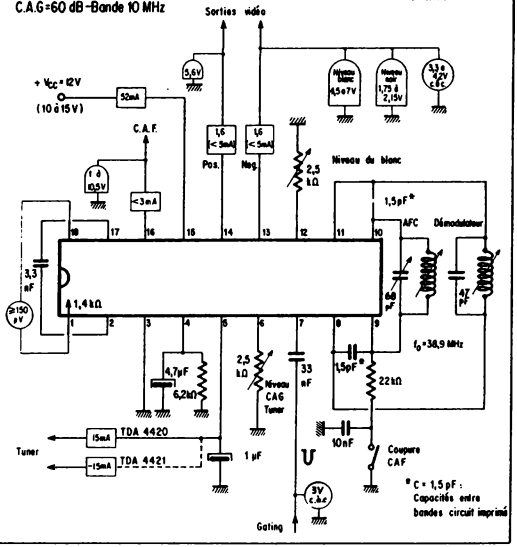


Amplif. F.I. et démodulateur TV_CAG et CAF

TDA 4420
TDA 4421

Telefunken

Tuners PNP : TDA 4420
Tuners NPN : TDA 4421
C.A.G. = 60 dB - Bande 10 MHz



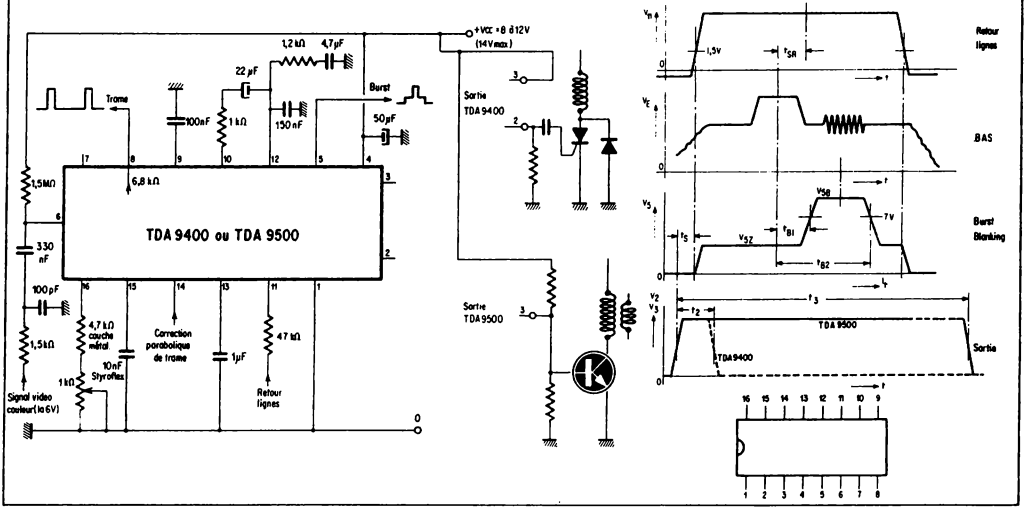
Séparation, synchronisation TV

Lignes

TDA 9400, TDA 9500

(Commande thyristor) (Commande transistor)

ITT

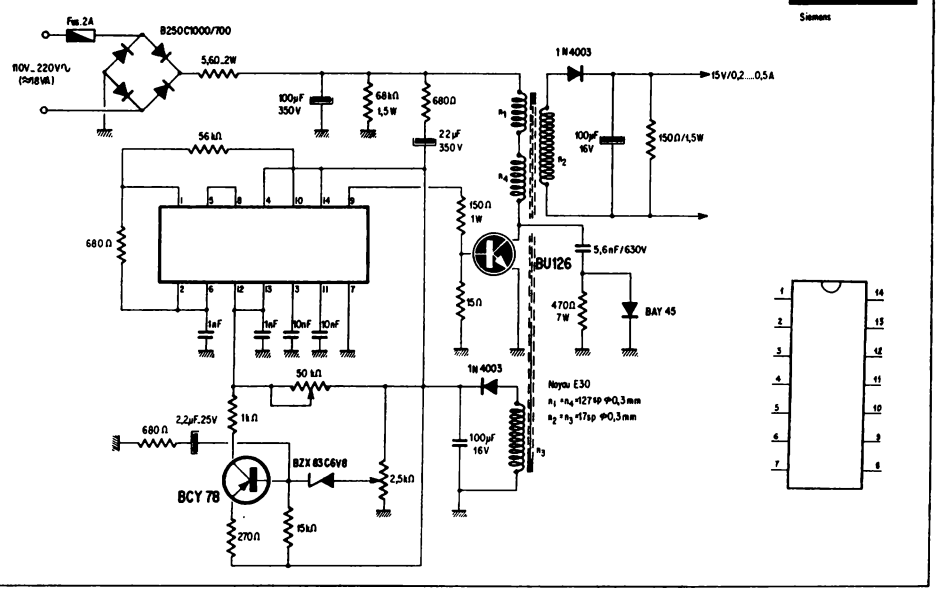


Alimentation à découpage

TDB 0556 A

Siemens

f≈16 kHz

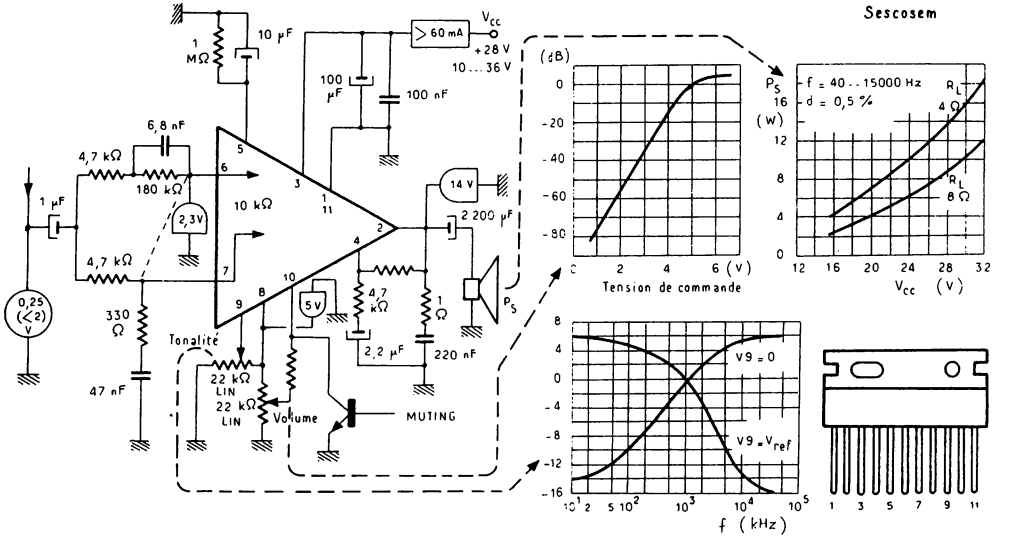


B.F. Puissance 2 à 18 W

Rapport signal / bruit > 60 dB

TEA 1022 SP

Sescosem

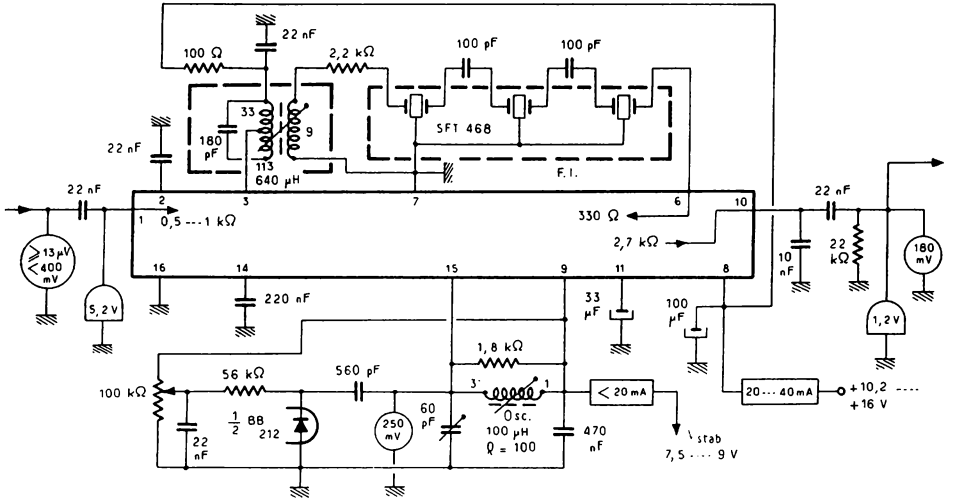


Réception AM _ Autoradio

Distorsion < 2,5 %

TEA 5550

RTC



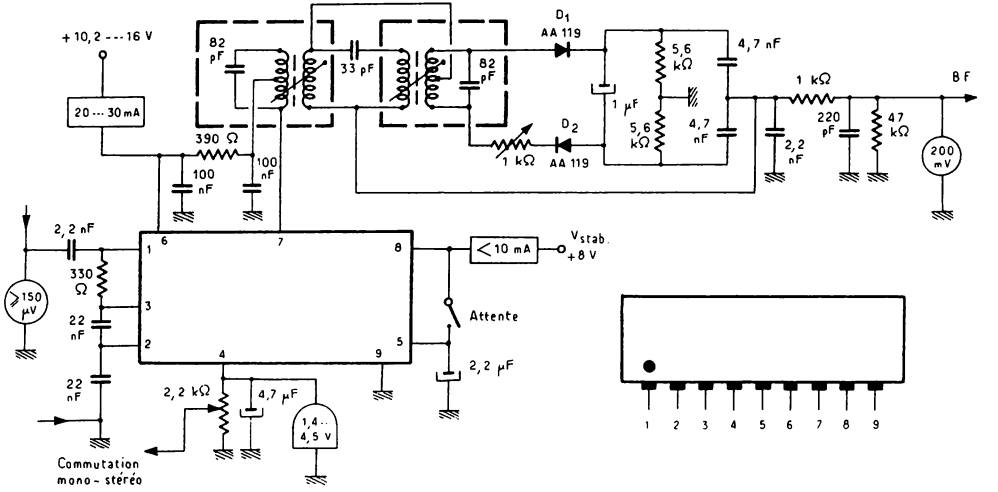
Réception F.M.

Distorsion 0,35 % à Δf = 22,5 kHz

Réjection AM : 50 dB

TEA 5560

RTC

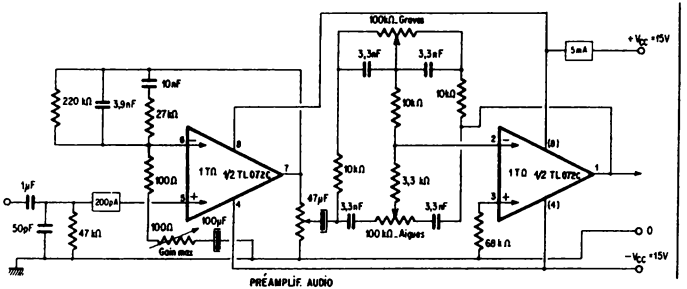


Amplif. opérationnel (Entrée FET)

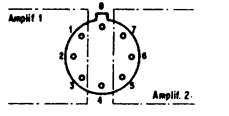
Bruit 18 nV/√Hz - Distorsion 0,01%
Offset 10 mV - 50 pA - Gain ≤15000

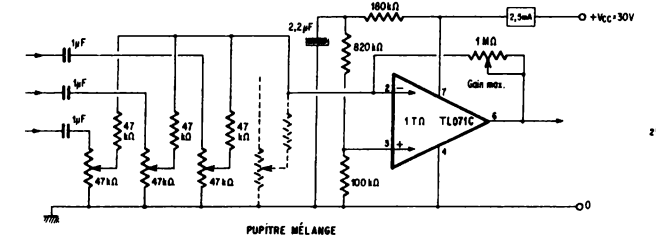
TL 071C - TL 072C

Texas Instruments

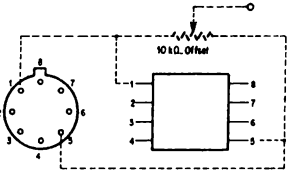


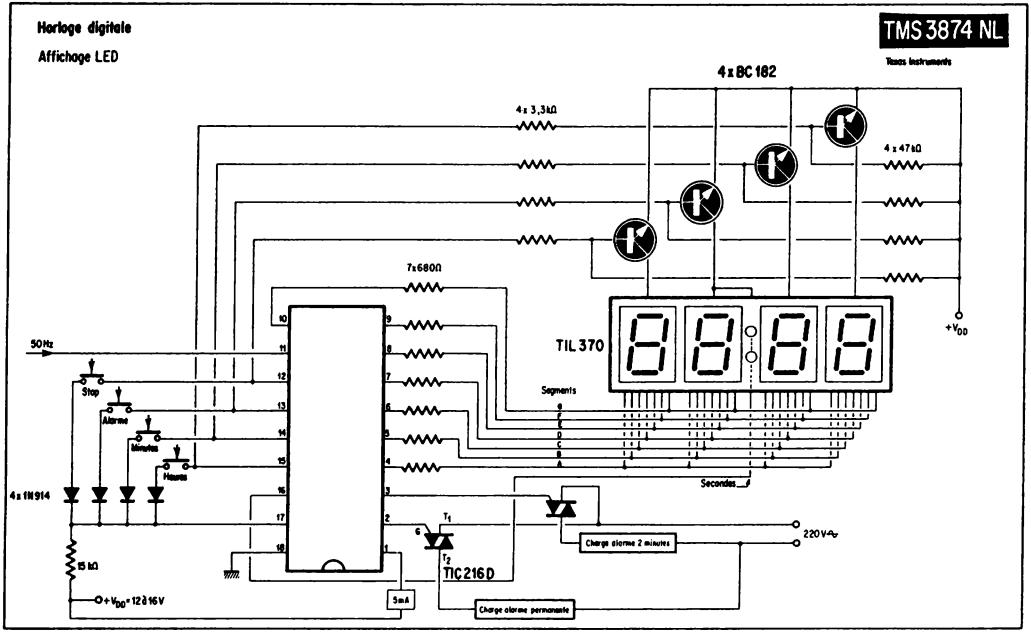
PRÉAMPLIF. AUDIO



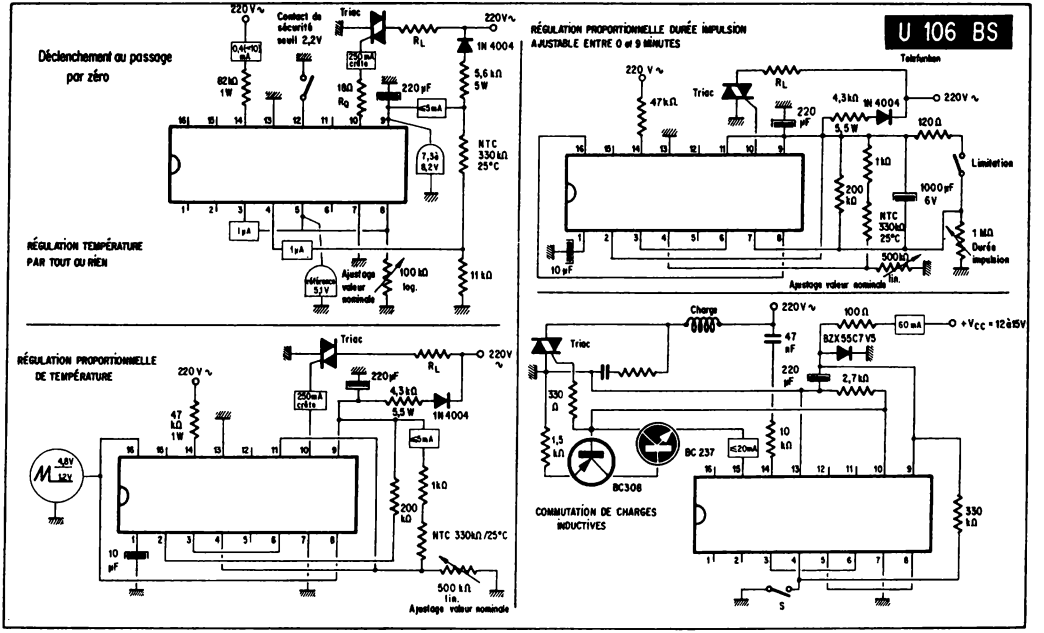


PUPITRE MÉLANGE




Horloge digitale
Affichage LED
TMS 3874 NL
Texas Instruments
4 x BC 182
4 x 3,3kΩ
4 x 47kΩ
7x680Ω
50Hz
Stop
Alarme
Minutes
Heures
4 x 1N914
15 kΩ
+V_DD = 12 à 16 V
TIL 370
Segments
a
F
E
D
C
B
A
Secondes
+V_DD
T1
G
T2
TIC 216 D
5mA
Charge alarme 2 minutes
Charge alarme permanente
220 V~

U 106 BS

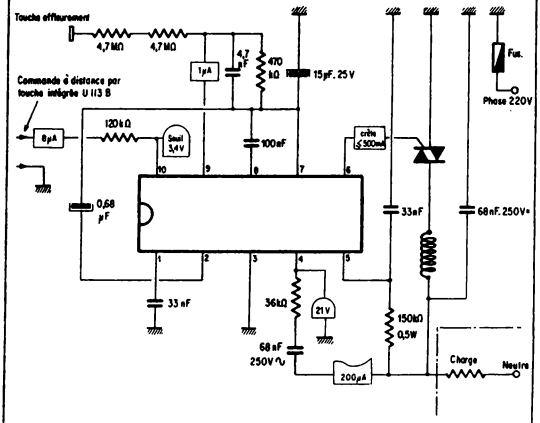

Déclenchement au passage par zéro
220 V~
Contact de sécurité seuil 2,2V
Triac
220V~
RL
1N 4004
0,4...10 mA
250 mA crête
82kΩ 1W
18Ω RG
220 pF
≤5mA
5,6 kΩ 5W
NTC 330 kΩ 25°C
7,3V 8,2V
1 µA
1 µA
Référence 5,1 V
Ajustage valeur nominale
100 kΩ log.
11 kΩ
RÉGULATION TEMPÉRATURE PAR TOUT OU RIEN
RÉGULATION PROPORTIONNELLE DE TEMPÉRATURE
Triac
220 V~
220V~
RL
220pF
250mA crête
4,3kΩ 5,5 W
1N4004
47 kΩ 1W
≤5mA
1kΩ
200 kΩ
NTC 330kΩ/25°C
10 pF
500 kΩ lin.
Ajustage valeur nominale
M 4,8V 12V
RÉGULATION PROPORTIONNELLE DURÉE IMPULSION AJUSTABLE ENTRE 0 et 9 MINUTES
Télefunken
220 V~
47kΩ
Triac
RL
220 pF
4,3kΩ 5,5 W
1N 4004
220V~
120Ω
Limitation
1kΩ
200 kΩ
1000 pF 6V
NTC 330kΩ 25°C
1 MΩ Durée impulsion
10 pF
500kΩ lin.
Ajustage valeur nominale
Charge
220V~
100Ω
60 mA
+Vcc = 12 à 15V
BZX55C7V5
47 nF
220 pF
2,7kΩ
Triac
330 Ω
1,5 kΩ
BC 237
≤20mA
10 kΩ
BC308
330 kΩ
COMMUTATION DE CHARGES INDUCTIVES
S

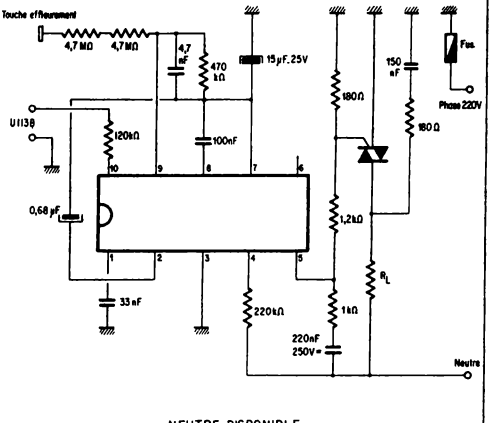
Commande Triac

par touche effleurement
Commande par tout ou rien

U 112 BA

Telefunken



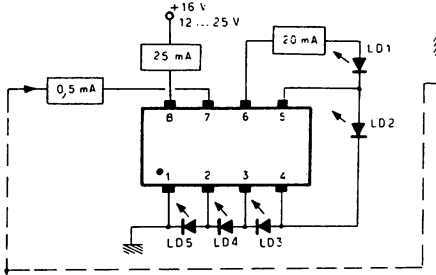


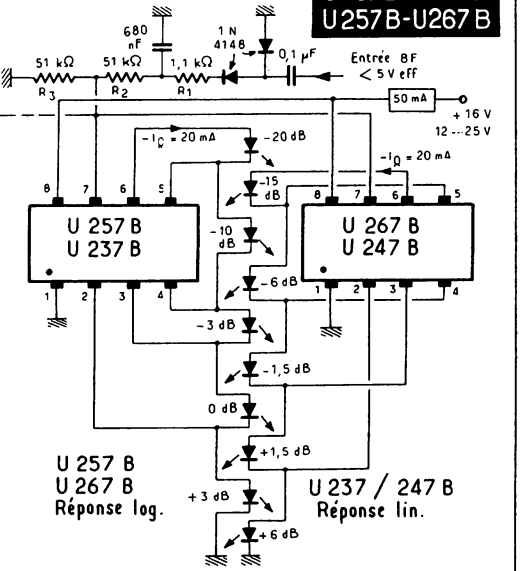
Indicateurs 5 / 10 LED

Point lumineux

AEG - Telefunken

U237B-U247B
U257B-U267B





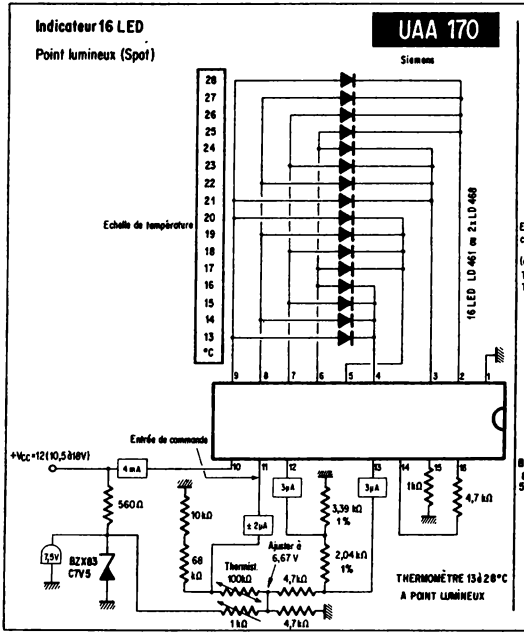
Tension de commande	LD 1	LD 2	LD 3	LD 4	LD 5	
U 237 B	0,2	0,4	0,6	0,8	1	V
U 247 B	0,1	0,3	0,5	0,7	0,9	V
U 257 B	0,18 = - 15	0,5 = - 6	0,84 = - 1,5	1,19 = +1,5	2 = + 6	V dB
U 267 B	0,1 = - 20	0,32 = - 10	0,71 = - 3	1 = 0	1,41 = + 3	V dB

Indicateur 16 LED

Point lumineux (Spot)

UAA 170

Siemens

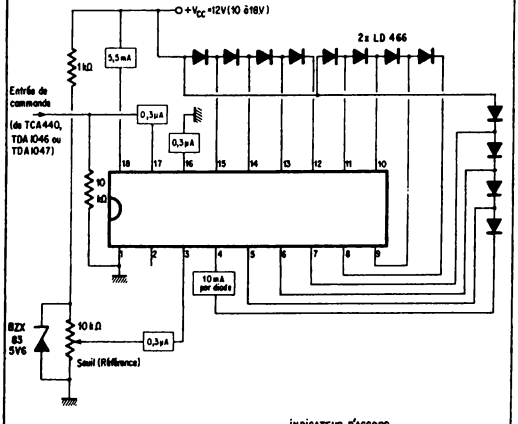


Indicateur 12 LED

Bande lumineuse (Rampe)

UAA 180

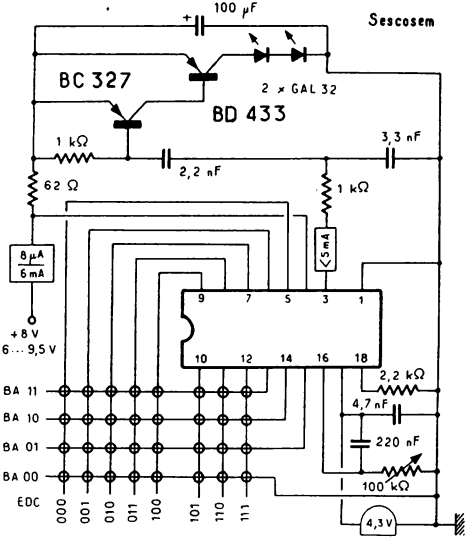
Siemens



Télécommande TV Infrarouges

UAA 4000

Sescosem



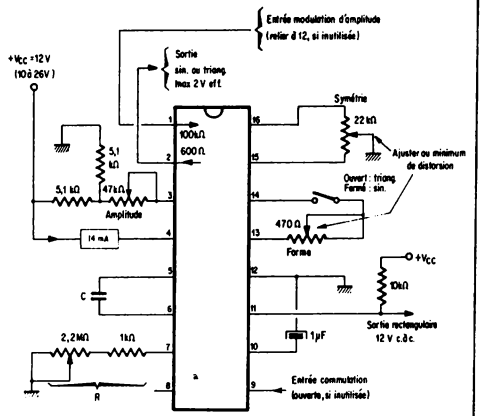
Générateur fonctions 0,01 Hz à 1 MHz

XR 2206

Exar

Distorsion: < 0,5%

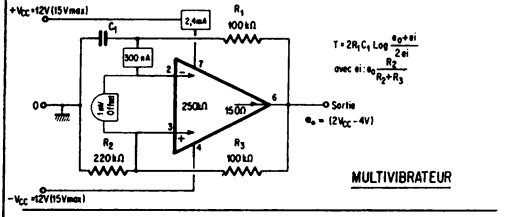
Rapport de gamme ≤ 2000



f = 1 / RC

Amplif. opérationnel

Gain : 86 dB

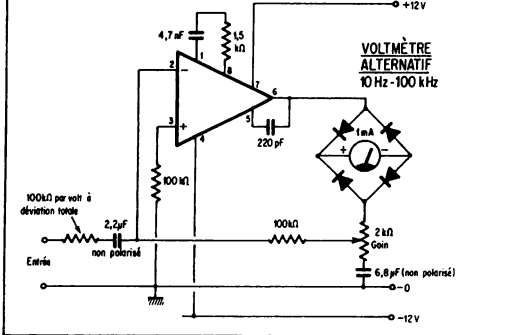


$$T = 2R_1C_1 \text{ Log } \frac{e_0+ei}{2ei}$$

avec $ei : e_0 \frac{R_2}{R_2+R_3}$

$e_0 = (2V_{CC} - 4V)$

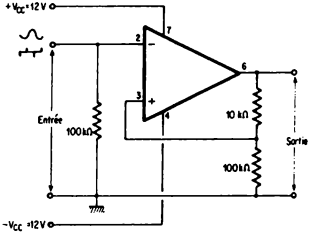
MULTIVIBRATEUR



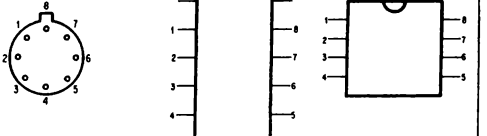
VOLTMÈTRE ALTERNATIF
10 Hz - 100 kHz

µA 709

Fairchild
- MC 1709 Motorola
- SN 72709 Texas Instruments
- SFC 2709 C Seacosem
- TAA 521 Siemens
- LM 709 National Semicond.



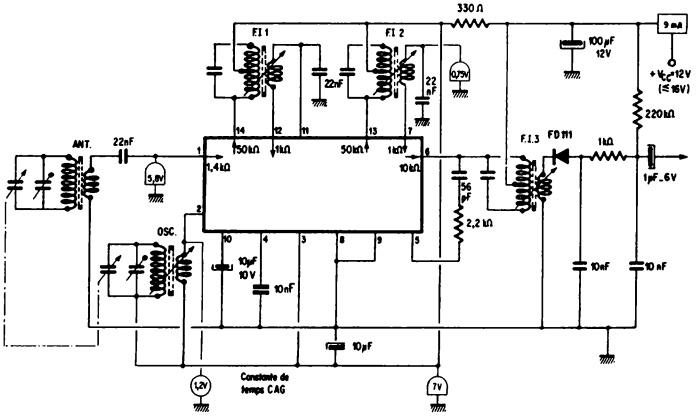
TRIGGER

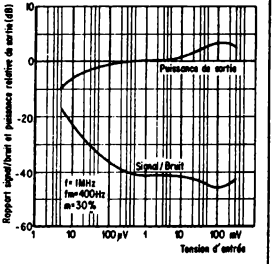


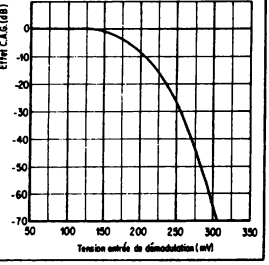
Radioréception A.M.

µA 720

Fairchild







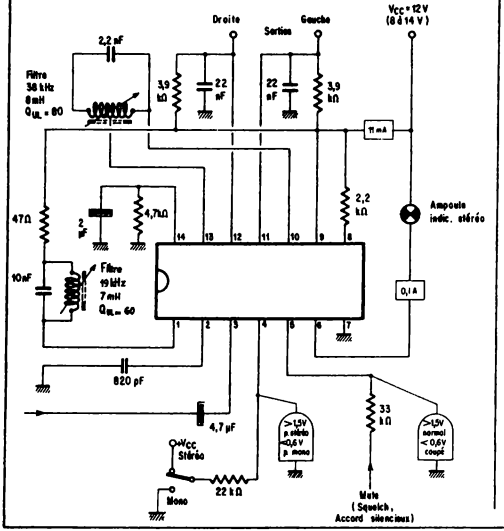
Décodeur stéréo

μA 732

Fairchild

Séparation canaux : 40 dB

Distorsion : 0,5 %

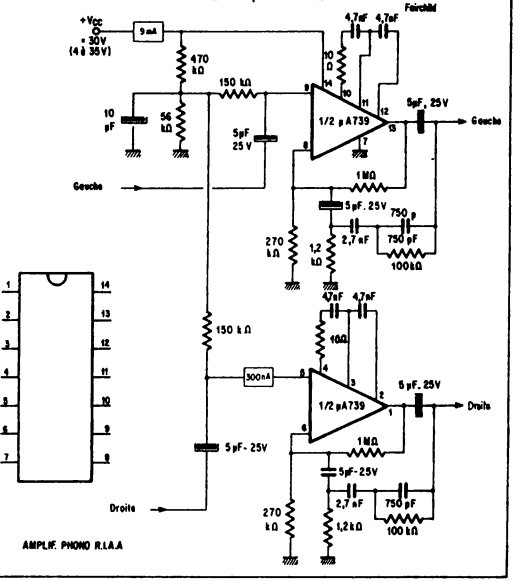


Préamplif. double

μA 739

Fairchild

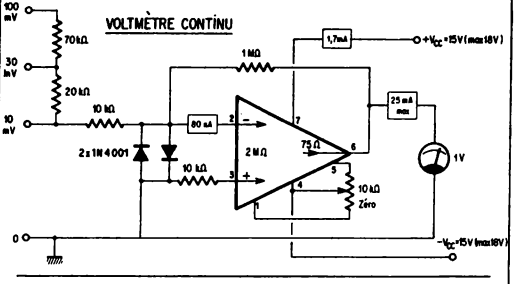
Stéréo. Bruit < 10 nV/√Hz. Facteur bruit 2 dB. Sépar. canaux : 140 dB



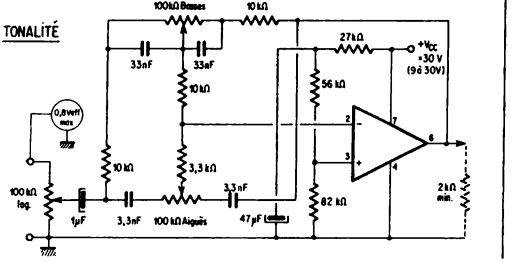
Amplif. opérationnel

Gain : 200 000 (106 dB)_Offset 1mV_20nA

VOLTMÈTRE CONTINU



TONALITÉ

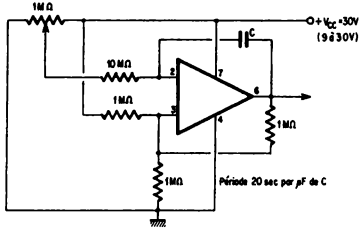


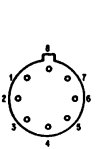
µA 741 C

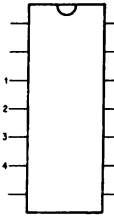
Fairchild

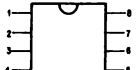
- SN 72741 Texas Instruments
- SFC 2741 Sescosem
- TBA 221 Siemens
- LM 741 National Semicond.
- MC1741 Motorola
- CA 741 RCA
- N 5741 RTC - Signetics

MULTIVIBRATEUR LENT







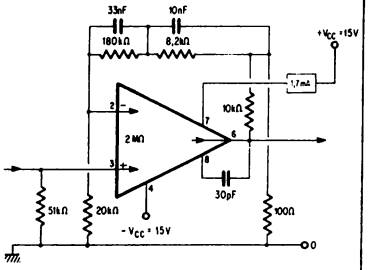


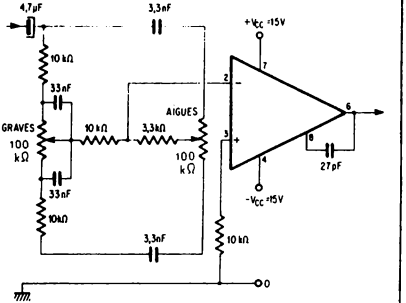
Amplif. opérationnel

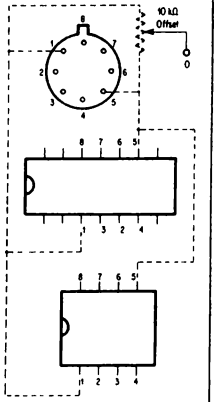
(= µA 741, sauf compensation externe)

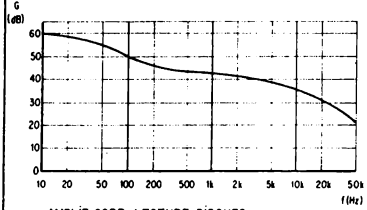
µA 748 C

Fairchild
- SN 72748 Texas Instr
- LM 748 National Semicond
- CA 748C RCA
- SFC 2748 Sescosem
- N 5748 RTC. Signetics

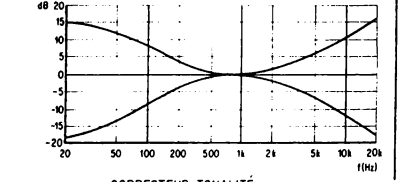








AMPLIF CORR. LECTURE DISQUES



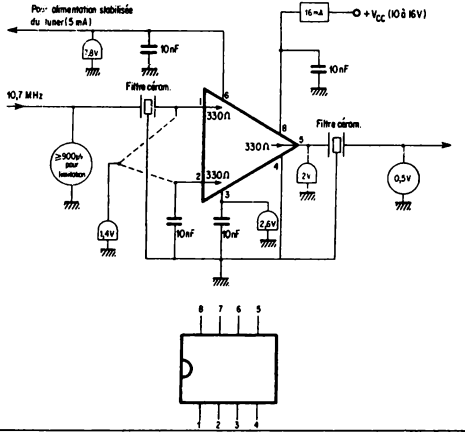
CORRECTEUR TONALITÉ

Amplif. F.I-F.M.

Gain : 50 dB

µA 753

Fairchild

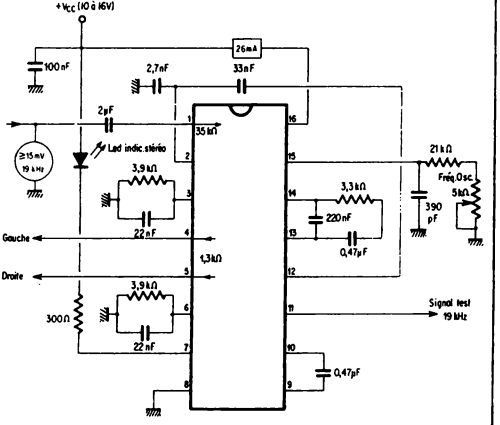


Décodeur stéréo

à verrouillage de phase
Séparation canaux : 40 dB
Distorsion : 0,4 %

µA 758

Fairchild
RTC_Signetics
=CA 758 R.C.A



EXTRAIT DU CATALOGUE DES ÉDITIONS RADIO

TÉLÉVISEURS A TRANSISTORS, technique, réglage, dépannage par **Ch. Dartevelle.** – Un véritable guide de mise au point et de dépannage pour les téléviseurs noir et blanc ou couleurs (y compris tubes P.I.L. et bases de temps à thyristors).
288 pages, format 16 × 24)

CIRCUITS INTÉGRÉS TV par **H. Schreiber.** – Recueil de schémas d'applications avec valeurs des composants, tensions et formes des courants.
64 pages, format 21 × 29,7.

RÉGLAGE ET DÉPANNAGE DES TÉLÉVISEURS COULEURS de **Ch. Dartevelle.** – Réglages et diagnostic des pannes 70 reproductions couleurs d'écrans TV et 120 oscillogrammes.
160 pages, format 24 × 16 (3e édition)

RADIO-TUBES par **E. Aisberg, L. Gaudillat** et **R. Deschepper.** – 900 schémas d'emploi de tubes radio avec culottage et valeur des éléments.
168 pages, format 22 × 13 (18e édition)

TÉLÉTUBES par **R. Deschepper.** – Schéma et emploi des tubes cathodiques pour téléviseurs (y compris P.I.L. et autoconvergents) ainsi que les tubes classiques spécifiquement télévision.
176 pages, format 22 × 17 (8e édition)

RÉPERTOIRE MONDIAL DES TRANSISTORS par **E. Touret** et **H. Lilen.** – Caractéristiques électriques et mécaniques, fabricants, équivalences de plus de 27 000 transistors (européens, américains, japonais).
384 pages, format 21 × 29,7 (4e édition).

GUIDE MONDIAL DES SEMI-CONDUCTEURS par **H. Schreiber.** – Les caractéristiques essentielles des diodes, transistors, transistors à effet de champ. Un classement méthodique donne accès à des tableaux de remplacement.
208 pages, format 24 × 16 (9e édition).

RADIO-TV TRANSISTORS par **H. Schreiber.** –
700 schémas d'utilisation radio, BF, électronique
120 schémas d'utilisation, 160 pages, format 21 × 23 (8e édition).

LISTE ÉQUIVALENCES TRANSISTORS, DIODES ET THYRISTORS par **G. Félétou.** – 45 000 équivalents directs ou approchés.
512 pages, format 16 × 24 (7e édition).

LISTE ÉQUIVALENCES CIRCUITS INTÉGRÉS (LOGIQUES ET LINÉAIRES) par **G. Félétou.** – Équivalents directs, caractéristiques essentielles, brochages et croquis des boîtiers.
256 pages, format 16 × 24 (2e édition).

ENVOI DE NOTRE CATALOGUE SUR DEMANDE

S. E. C. F.

Éditions Radio

Services commerciaux : 3, rue de l'Éperon, 75006 Paris - C.C.P. La source 340 37.40. H

Magasin de vente : 9, rue Jacob, 75006 Paris - Tel. 329 63.70